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Saint Agnes Hospital Issue

ST. AGNES HOSPITAL OF THE CITY OF BALTIMORE, MARYLAND

FOUNDED IN 1862

SISTER DENISE*

ST. AGNES HOSPITAL

St. Agnes', the first Catholic hospital in Baltimore, owes its inception to the zeal of the clergy and the generosity of the laity.

In the latter part of 1861, Elizabeth Caton Stafford, granddaughter of Charles Carroll of Carrollton, wrote to Archbishop Francis P. Kenrick of her wish to donate about thirty

* Administrator, St. Agnes Hospital.

acres of land for "a hospital for the Catholic poor." Lady Stafford had been told by her sister, Emily Caton McTavish, that there was great need of such a foundation. A lot of approximately thirty acres in Baltimore County and lots in Southwest Baltimore were deeded to the Archbishop, whom Lady Stafford requested to establish "a Catholic hospital under such regulations as you choose and approve." Though ill, this generous woman was eager to accomplish "a work pleasing to God for the good of my soul."

By April, 1862, Lady Stafford wrote her approval of the prelate's plan to transfer the ground for the proposed hospital to the Sisters of Charity of Emmitsburg. On May 3, 1862, V. Rev. Francis Burlando, C.M., Superior, informed Archbishop Kenrick that the Provincial Council "Thankfully accepted" the prelate's suggestion. To commence the institution, a house would be rented; part of the patients would be supported by the income from the Stafford donation. Father Burlando remarked that "the want of an establishment of the kind has been felt for a long time."[1]

On May 22, 1862, the proposed institution was incorporated as "St. Joseph's Hospital of the City of Baltimore." On September 27 of that year, the Archbishop transferred the Stafford grant to the St. Joseph's Hospital Corporation.

But before the proposed hospital possessed more than legal existence, another generous Catholic took steps to remedy the lack of a Catholic hospital in Baltimore. This was Mr. Charles Dougherty, who purchased the Kernan house, at Lanvale Lane and Greenmount Avenue, and presented it to the Sisters of Charity for the nursing care of the poor sick. He asked that the hospital be named for his wife, nee Agnes Kelly, a graduate of St. Joseph's Academy, Emmitsburg. Accordingly, the name of the hospital corporation was amended to St. Agnes', May 31, 1863.

In April, 1863, the Sisters occupied the Lanvale Lane site. This first nursing staff consisted of five Sisters who had been on duty at the Baltimore Infirmary, later the University Hospital. Since 1823, the Sisters of Charity had furnished nursing service at the University Hospital. Through this pioneer personnel, St. Agnes', the first Catholic hospital in Baltimore, has close association with the University Hospital, the first hospital in the United States to employ Catholic Sisters as nurses.[2]

Sister Mary Ann McAleer, the first Superior of St. Agnes', had held that post at the University Hospital, her mission for twenty years. Her "eminent services gained for her the esteem and regard of the medical profession in Baltimore."[3] Dr. Nathan R. Smith, in particular, used to say that his usual minute instructions for the care of patients recovering from dangerous and difficult operations, were unnecessary when Sister Mary Ann was to nurse the patient.[4]

By August of 1863, Dr. John A. Doyle had been appointed physician "to St. Agnes Hospital, on the York Road, near the city limits. The hospital is a charity one and already many have availed themselves of its benefits."[5] Quite literally consecrated to attendance on the sick, Dr. Doyle was the forerunner of those physicians who, for over nine decades, have assiduously ministered to St. Agnes' patients.

For about ten years, the hospital served an ever-larger group. Then the extension of Lanvale Lane rendered the location undesirable. By October, 1876, all patients had been transferred to the new St. Agnes', erected at Wilkens Avenue and Maiden Choice Lane, on the site given by Lady Stafford. The center building and left or north wing were crowded until 1891, when Mrs. Celinda Whiteford donated the south wing, in memory of her son, a patient at the hospital.

In 1895 the Nursing School opened its doors, conducting the first graduation in 1898. Its alumnae became organized in 1901. For over half a century, St. Agnes' Nursing School has

been perpetuating the ideals of the hospital's pioneer physicians and nurses.[6]

About 1898, at the suggestion of Cardinal Gibbons and prominent laymen, the hospital became a sanitarium famed for hydrotherapy. It was thought that the extremely healthful location of St. Agnes' would lend itself to this mode of treatment.[7] Dr. Francis E. Brown, former resident, had gone to Europe to study the Kneipp and Winternitz methods, and the latter was introduced at the sanitarium.[8]

By 1906, the institution had been reorganized as a general hospital. Under the talented leadership of Dr. Joseph Colt Bloodgood, chief of staff from 1906 to 1935, the hospital assumed its place in the medical life of the city. Renowned as a surgeon and cancer authority, Dr. Bloodgood gave his best to St. Agnes', establishing a standard of professional competence which has become traditional.

In 1907, the Women's Auxiliary was formed. This group of charitable women has impressive achievements to its credit. Generous effort has succeeded in providing equipment ranging from installation of new baths and electric elevators to supplying furnishings for the pediatrics section and for the nursing school library.[9]

Growing complexity attendant upon reorganization did not cause the original work of the hospital to be neglected. From the outset, St. Agnes' had cared for the poor sick; time multiplied demands, and on April 5, 1910, apartments for outpatients were enlarged and formally opened.[10] This branch of hospital service has steadily expanded to meet the needs of its clientele.

St. Agnes' is approved for the training of internes and residents in surgery, medicine, obstetrics and gynecology, and is fully approved by Joint Commission on Accreditation of Hospitals, the Catholic Hospital Association, the Maryland Examining Board and Maryland State Board of Health.

Adjusting its services to twentieth-century needs, St. Agnes' endeavors to remain true to its tradition of almost a century, that of imitating the charity of Him Who went about "healing all manner of sickness and every infirmity, among the people."[11]

St. Agnes Hospital
Baltimore 29, Maryland

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Scientific Papers

A METHOD OF CLOSURE OF PILONIDAL SINUS AND CYST

JAMES N. CIANOS, M.D., F.A.C.S. AND JOAQUIN AZPIROZ, M.D. (MEXICO)*

It has always been a source of amazement to us to watch a surgeon use the open method of treatment of a pilonidal sinus. Where in all other instances every attempt is made to close a wound per primum, the region of the sacrococcyx is left wide open and gaping. Where an attempt is always made to conserve tissue in all other instances, the flesh over the sacrum and coccys is removed with seeming careless abandon and the resultant cavern is stuffed with various medicaments and gauze. Lahey has reported that such open wounds result in painful scars, persistent pain and tenderness over the sacrum and coccyx, and increased morbidity. Moreover, whether the open or closed methods are used, a certain percentage of recurrence seems to be almost inevitable. Palumbo, Larrimore and Katz,[1] found in a review of 4884 reported cases a recurrence rate of from zero to sixty-three per cent when the open method was used; while in 1843 reported cases treated by the closed method, a recurrence of two per cent to fifty-three per cent was noted. These figures seem to indicate that other factors are operative rather than the method used.

In an attempt to analyse the reasons why recurrences are prone to occur in pilonidal sinus four factors present themselves: 1. Incomplete removal. 2. Too much surgery. 3. Inherent tendency for recurrence because of the position of the sinus. 4. Infection or reinfection.

Each of these will be discussed briefly.

Incomplete Removal

This can hardly be considered important in view of the many and varied surgeons who report on this subject. It is inconceivable that incomplete excision of the sinus and cyst would be a major factor. With the removal of large slices of tissue, the sinus and cyst are often delineated with methylene blue and all tissue stained by the dye excised. Dunphy and Matson[2] reported on sixty-two cases done at the Peter Bent Brigham Hospital in which both the open and closed methods were used. Since the same surgeons were involved, it is absurd to infer that when the open method is used all tissue is excised but when the closed method is employed some is left behind.

Too Much Surgery

It may be that in removing more tissue than is necessary, closure of the wound then becomes a major problem. The literature teems with multifarious methods of closure and tricky maneuvers which should have little or no place in surgery. Berman[3] performs a wide excision and then undercuts laterally. The two lateral incisions are then closed loosely while the longitudinal incision is closed tightly. He reported no recurrence and healing within fourteen to thirty-one days. Holman[4] used gluteal muscle fascia flaps and reports two to ten per cent recurrences. Pope[5] performs a block dissection and muscle grafts from the gluteus maximus on either side. Larkin[6] uses through and through wire sutures. He has reported 90.9 per cent primary healing. Patey[7] feels that preoperative x-rays is helpful while Ziegler[8] uses curved incisions around the sinus and closes the wound by using the fascia of the gluteus muscles. Larsen[9] uses elliptical incisions. He concludes that undermining and the use of muscle flaps is

* Assistant Resident Surgeon, St. Agnes Hospital.

undesirable. He uses #40 cotton to build up the wound and does not use the sacral fascia in the process of suturing.

Inherent Tendency for Recurrence Because of the Position of the Sinus

This can be dismissed as of no importance by noting that when coccygectomies are done the incision which is more or less in the same position as that for excision of the pilonidal sinus heals without any difficulty.

Infection or Reinfection

This factor most likely plays a very important role in the recurrence of these lesions. In open wounds about the anus great care must be taken to prevent contamination. Repeated dressings and the ambulatory nature of the convalescence at home are factors which increase the probability of infection. Excision of a great amount of tissue with too much surgery and tissue under tension are also factors which may cause the breakdown of the wound and contamination. Sutures piercing the skin in contaminated areas especially when under tension are likely to cause infection. When this occurs there may be a down growth of epithelial elements which could account for recurrence in such instances. It should also be noted that in the sacro-coccygeal area, a great amount of adipose tissue lies between the skin and the underlying sacral fascia. Excessive trauma either because of the surgical manipulation or because of the improperly placed sutures may result in fatty necrosis with subsequent breakdown of the wound.

Our method that has evolved for excision and closure of a pilonidal cyst is based on the considerations which have been discussed above. The wound is treated as one that is potentially infected or contaminated. A minimal amount of tissue is removed and every effort is made to treat such a wound in the same manner that other surgical incisions are treated. On the day before the operation the patient is placed on antibiotics such as a combination of streptomycin and penicillin. The type of anesthesia used is usually a saddle block and the patient is placed in the "jack-knife" position with the buttocks retracted by adhesive straps. Since the perineum is close to the operative site only aqueous solutions are used for cleansing the skin. Ether and alcohol is avoided because of the possibility of burns which may occur in the perineum per primum. The sinus tract is then probed to find its direction.

It will usually be noted to pass to one or the other side of the midline and sometimes the tract seems to extend proximally and at other times distally. In this manner one can visualize the position of the cyst and sinus so that more tissue can be conserved. Methylene blue is not used because it obscures the operative site and is much easier to dissect and excise according to the scar tissue that is present. It is only necessary to excise a few millimeters to either side of the sinus tract in order to completely remove the pathological tissue. It has not been found necessary to remove the sacral fascia. In those cases where repeated infections have occurred and more than one sinus tract is noted, this area is likewise excised even though it may pass at right angles to the midline. All bleeding points are ligated with #60 cotton. Very little ligation need be used since most of the bleeding will stop spontaneously. The wound is thoroughly irrigated with aqueous zepharin followed by normal saline. The buttock straps are then loosened and the deeper portions of the wound are coaptated with #60 cotton. These sutures are placed well below the surface of the skin and passed through the sacral fascia. Following this a long piece of #32 silver braided wire is used to close the superficial portion of the wound. This is a continuous suture which lies subcutaneously and not in the subcuticular space. The wire is brought out beyond the limits of the incision and ligated. In two or three days the ends of the sutures are cut after a slight amount of traction is placed on the wire. The

cut ends are permitted to retract beneath the skin and the wire is allowed to remain in the wound. The patient is permitted out of bed in a routine manner and becomes ambulatory on the first post-operative day.

In fourteen cases in which this method has been used there has been one recurrence. When the wire was removed through a part of the wound which had separated it was treated as an infected wound. Subsequently, it healed adequately. No untoward effects have been noted because of the wire remaining in the subcutaneous tissue. The average hospital stay has been six to seven days.

Conclusions

In surgery of pilonidal sinuses and cysts the closed method is preferred since a certain percentage of recurrence will be seen no matter what method is used. No wound wherever made always heals by first intention. The open method results in painful scars and increased morbidity. An attempt should be made to conserve tissue and treat the wound as a potentially infected one since recurrence is in all likelihood due to a subsequent infection of the wound. Based on these considerations a method of treatment is reported which has resulted in a high degree of healing by first intention and with a minimal amount of loose tissue, morbidity and sensitive scarring.

St. Agnes Hospital
Baltimore 29, Maryland
(Dr. Cianos and Dr. Azpiroz)

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CARCINOMA IN SITU OF THE UTERINE CERVIX

JOHN C. DUMLER, M.D. and JOHN D. DUMLER, M.D.

Carcinoma in situ of the uterine cervix has been defined as "a lesion in which the entire thickness of the squamous epithelial layer is replaced by cells microscopically indistinguishable from those of frank invasive cancer, with the complete loss of stratification, but with no invasive penetration of the basement membrane."[66] The lesion has been frequently termed "intraepithelial carcinoma," "pre-invasive carcinoma," and "incipient carcinoma." This last term was first used in referring to the preinvasive form of carcinoma of the cervix by Rubin in 1910.[31] He reported three cases of "incipient carcinoma," and his description and drawings of the sections indicated that two of these cases were examples of carcinoma in situ with extension into the cervical glands and that the third case was probably one of basal cell hyperplasia. Rubin was a student of Schottlander, who, with Kermauner, published a monumental work on carcinoma of the uterus, *Zur Kenntnis des Uterus-Karzinoms*, in 1912. They described the thin layer of surface carcinoma which is frequently found adjacent to an invasive carcinoma.[13] This zone of pre-invasive carcinoma completely replaced the normal epithelium and

was compared to the icing on a cake. Cullen in 1921 described a case in which, during routine D & C, a piece of tissue consisting of typical squamous cell carcinoma was found, but it was entirely intraepithelial.[1] In stating that many would find fault with his diagnosis, he insisted that "we have never seen an epithelial pearl in the squamous epithelium of the cervix except in cases of squamous cell carcinoma of this region." This idea was restated by Fennell recently when he commented that invading carcinoma cells tend to form pearls and that any pearl formation in an apparent in situ carcinoma necessitates a thorough search for invasion.[62]

Schiller, in Vienna, and Novak, Pemberton and Smith, Broders, and TeLinde and others in this country, continued the research into the early forms of carcinoma of the cervix. They recognized even then that to wait until the classic signs of cancer presented themselves would preclude diagnosis in the early, asymptomatic stage.

Schiller in 1927 described these early lesions as "beginning carcinoma," non-invasive, but definitely carcinoma. He also pointed out the oblique and sharp border usually found between the carcinoma and the normal cervical squamous epithelium. Broder first introduced the term "carcinoma in situ" in 1932,[4] and Pemberton and Smith used the term in 1934 in presenting sixteen cases of pre-invasive carcinoma.[7] Schiller gave impetus to the investigations with the introduction of the Schiller test in 1928.[6] Lahm had earlier discovered that the normal squamous epithelium of the portio is rich in glycogen, while the cancerous and diseased epithelium is glycogen poor.[11] As early as 1933 TeLinde cautioned against the excess of hysterectomies in poorly diagnosed "precancerous" lesions, without sufficient study and repeat biopsies, and consultations with other pathologists.[5]

The criteria of diagnosis for carcinoma in situ are fairly universally accepted today. In brief, there must be loss of normal stratification of the epithelial cells, variability in the size and shape of the cells, nuclear hyperchromatism, cytoplasmic-nuclear ratio inversion, and complete undifferentiation. These changes must extend through the entire thickness of the cervical epithelium. The problem as to whether carcinoma in situ is a misnomer, whether it is actually cancerous or not, often seems to be a semantic one.[39] Hinselmann, as early as 1892, emphasized that the morphologic characteristics of the cell represented sufficient criterion of malignancy, while other pathologists maintained that invasion was the determining factor. Broder maintained that the diagnosis of carcinoma in situ, as of cancer in general, is based on altered cellular characteristics in contradistinction to the cellular situation.[4] Rubin, in reporting his three cases of "incipient carcinoma" in 1910, stated that "the important criteria of malignancy in these cases lie not so much in the relation of the cell nests to the stroma, the depth or extent of the epithelial invasion, or evidence of surrounding inflammatory changes, as in the intrinsic morphology of the epithelial cells."[31] Schiller,[8] Meyer,[16] and many others concurred in this belief, but acceptance was slow and as recently as 1939 Younge took the general pathologists to task for their reluctance in recognizing carcinoma in situ as carcinoma because of the absence of invasion.[15] Meyer had pointed out that although invasion is the most striking of the characteristics to be recognized, the cellular changes appear earlier and must be recognized.[16] Diddle succinctly points out that penetration of the basement membrane is only a criterion of invasion and not of malignancy, while absence of it does not imply benignancy.[27]

In all cases of carcinoma in situ invasion must be ruled out. Repeat biopsies are suggested by most investigators, with conization suggested by others if the initial biopsy suggests a wide, although superficial, lesion. Consultation with other pathologists before definitive treatment is begun is indicated. Many of the cases of carcinoma in situ have been proven later to be merely the frosting on the cake for an adjacent

invasive lesion. Although most investigators are convinced that this situation is common, Hoffmann disputes the suggestion that intraepithelial carcinoma or carcinoma in situ is akin to the non-infiltrating typical epithelium found at the periphery of a frank invasive growth.[56] He maintains that the epithelial changes are more likely due to the reaction of the normal epithelium to the adjoining neoplasm. However, the consensus of opinion is that cases of carcinoma in situ, when followed by serial sectioning of the cervix, frequently disclose foci of early invasion and the intraepithelial lesion is actually carcinomatous. Galvin and Hertig and Younge further claim that carcinoma of the cervix nearly always can be shown to possess an in situ pattern of the overlying epithelium.[46]

It must be emphasized that the entire thickness of the epithelium must be replaced by cells possessing malignant characteristics in order to make an in situ diagnosis.[41] In true carcinoma in situ the superficial epithelium is as disorderly as the basal layer.[58] In a series of twenty-five cases which were misdiagnosed and treated by hysterectomy, Novak and Galvin concluded that the most common mistake leading to premature and unnecessary surgery was misinterpretation of varying degrees of basal cell hyperactivity.[41] Frequently these basal cell alterations revert to normal. The alterations in the basal cells are presumed to be caused by the stimulus of pregnancy, local infections, and other less well understood factors. The cervical epithelium, particularly at the squamo-columnar junction, seems to be highly susceptible to various alterations, and it is at this point that most of the pre-invasive lesions are found. The importance of differentiating epidermidization and basal cell hyperactivity from pre-invasive carcinoma has been stressed repeatedly. In 1929 Novak enlarged upon Meyer's theories of epidermidization and presented a basis for differentiating the pseudomalignant from the truly malignant lesions.[2]

The importance of basal cell hyperactivity as a possible precursor of carcinoma in situ or actual invasive carcinoma should not be overlooked, however. Recently Galvin reinforced this concept by pointing out that of 263 cases of basal cell hyperactivity which were followed with periodic biopsies, fifty of these lesions were found to be carcinoma in situ in a subsequent biopsy. There was an average of four follow-up biopsies on each of the patients. The results are shown in Table 1.[70]

The obvious conclusion to draw is that all cases of basal cell hyper-activity must be followed with multiple periodic biopsies.

Even when the unqualified diagnosis of carcinoma in situ is made, there is no assurance that stromal invasion has not occurred elsewhere in the cervix. The literature is studded with reports of invasion found only upon sectioning of the removed cervix. Depending upon the criterion used for invasion, however, the rate has ranged from 6% to 76%—Galvin and TeLinde report invasion in 55 of 75 cases (76%) in 1950; Pund and Echols report invasion in 3 of 54 cases (6%) in 1950; Younge et al. report invasion in 39 of 135 cases (29%) in 1949.

Obviously, the number of cases of invasion will increase if the criterion of invasion is relaxed or the sectioning is made more thorough. Although most authors do not consider gland involvement as invasion, Galvin and TeLinde disagree. They maintain that the glands afford a favorite route for invasion of the stroma, and that when the malignant epithelium advances into the gland lumen the columnar epithelium is destroyed. There is a distinct difference between this process and that of benign epidermidization. In the latter, growth ceases when the

TABLE 1

	Cervical Biopsies	Basal Cell Hyperactivity	Carcinoma in situ on Follow-up
1951	1797	87	17
1952	1692	81	16
1953	2178	95	17
Total	5667	263	50

lumen of the gland is filled, while the malignant growth continues into the adjacent tissue. Using glandular involvement as a criterion for invasion, TeLinde reported in 1953 a series of 108 cases of carcinoma in situ treated with hysterectomy, ultimately finding invasion in seventy-two cases (67%).[53] These authors have since amended their opinion and now differentiate between gland involvement and actual invasion.

Younge, Hertig and Armstrong classify glandular involvement as merely a more extensive replacement of the endocervical epithelium. Hoffman concurs in this belief, and believes that carcinoma in situ is actually an uncommon lesion and that most of the diagnosed cases are actually early invasive carcinoma, diagnosed as in situ for lack of sufficient sectioning. Of 8312 cervical biopsies from 1930 to 1952, repeat examination disclosed 685 cases of invasive carcinoma and only ten cases of carcinoma in situ, six of which were discounted as benign atypism on repeat biopsy.[52, 56]

As Hertig and Younge so aptly put it, the absolute proof that carcinoma in situ progresses to invasive carcinoma may never be presented since one must leave the entire cervix in to prove ultimate invasion, but must have the entire cervix initially to rule out invasion at the time of the diagnosis.

The actual mechanics of invasion have recently been investigated by Fennell who believes that invasion occurs at multiple points and that there may be several hundred small foci of invasion within one cervix, with no microscopic lesion.[63] These small areas of invasion, found in hysterectomy specimens, do not seem to alter the prognosis even when no further treatment is instituted. Invasion may not be located unless the complete cervix is examined, since the invasive process frequently begins in the endocervical canal, and cervical biopsies and short conizations may fail to include the desired tissue.

Fennell reports 116 cases of carcinoma in situ, plus twenty cases of stage 1 carcinoma of the cervix in which surgical removal had been performed. Eight of the cases showed typical carcinoma in situ on cursory inspection, but on exacting, almost serial sectioning of the removed uteri, early invasive changes were found. Three such cases of our own are presented later, in which we found extremely early invasive changes in the hysterectomy specimen.

Carson and Gall found that in forty-three cervices sectioned serially after hysterectomy for carcinoma in situ, twenty-one had multiple foci of in situ carcinoma, ten had single foci, and twelve apparently had had the lesion totally exterpated by biopsy.[58] These findings seem to validate Fennell's observations that invasion occurs at multiple foci rather than at one single breakthrough.

In 1952 Galvin, Jones and TeLinde reported forty cases of carcinoma in situ which had definitely progressed to clinical carcinoma.[43] The time intervals required for this development into frank invasion ranged from six months to sixteen years. Since then at least twenty-five more cases of this progression have been reported. All of these additional cases were verified by pathologists well versed in gynecologic pathology. The sixty-five such cases are listed in Table 2.

In addition to these cases, Karlstedt reported a series of seventeen cases of stage 0 cervical cancer, which were followed conservatively and ultimately developed into invasive cancers.[67] Unfortunately, we were unable to analyze these cases and to determine the time interval.

Doubtful cases, those in which early invasion was suspected although not diagnosed as such, are omitted. Gusberg, for instance, mentions a patient with "possible very early micro invasion" who developed invasive carcinoma in three years.[50] Carson and Gall report five cases, not included in the sixty-five listed above, who were found to have invasive carcinoma within a few weeks of the original in situ diagnosis. The case included in the series reported by Graham and

TABLE 2

Author	Date	Source	Time Interval	
			Year	Month
1. Smith and Pemberton	1934	(S.G.O. **59:** 1, 1934)	4	1
2. Smith and Pemberton	1934		4	9
3. Smith and Pemberton	1934		6	1
4. Smith and Pemberton	1934		12	6
5. Schmitz and Benjamin	1934	(J.A.M.A. **103:** 808, 1934)	0	9
6. Schiller	1938	(S.G.O. **66:** 129, 1938)	5 approx.	
7. Schiller	1938		5 approx.	
8. Schiller	1938		5 approx.	
9. Stevenson and Scipiades	1938	(S.G.O. **66:** 822, 1938)	9	0
10. Stevenson and Scipiades	1938		3	6
11. Younge	1939	(Arch. Path. **27:** 804, 1939)	3	2
12. Younge	1939		3	4
13. Knight	1943	(Am. J. Obst.-Gynec. **46:** 333, 1943)	3	0
14. Knight	1943		4	11
15. Taylor and Guyer	1946	(Am. J. Obst.-Gynec. **52:** 451, 1946)	7	0
16. Goldberger and Mintz	1947	(J. Mt. Sinai Hosp., **14:** 1947)	6	0
17. Pund et al.	1948	(Am. J. Obst.-Gynec. **55:** 831, 1948)	4	9
18. Younge et al.	1949	(Am. J. Obst.-Gynec. **58:** 867, 1949)	0	11
19. TeLinde and Galvin	1949	(Am. J. Obst.-Gynec. **57:** 15, 1949)	0	6
20. Scheffey	1949	(Discussion in above article)	9	0
21. Wespi	1949	(Early Carcinoma of Uterine Cervix)	3	0
22. Wespi	1949		10	0
23. Wespi	1949		8	6
24. Hinselmann	1949	(Quoted in Wespi's book)	4	0
25. Hinselmann	1949		3	0
26. Hazelhorst	1949		5	0
27. Jones	1950	(Am. J. Obst.-Gynec. **60:** 1369, 1950)	9	10
28. Anderson	1950	(J. Ob. & Gyn. Brit. Emp. **57:** 1, 1950)	9	10
29. Anderson	1950		3	11
30. Anderson	1950		1	3
31. Galvin, Jones and TeLinde	1952	(J.A.M.A. **149:** 744, 1952)	7	9
32. Galvin, Jones and TeLinde	1952		4	7
33. Galvin, Jones and TeLinde	1952		4	10
34. Galvin, Jones and TeLinde	1952		6	2
35. Galvin, Jones and TeLinde	1952		14	10
36. Galvin, Jones and TeLinde	1952		5	8
37. Galvin, Jones and TeLinde	1952		1	0
38. Galvin, Jones and TeLinde	1952		4	11
39. Galvin, Jones and TeLinde	1952		7	0
40. Galvin, Jones and TeLinde	1952		16	8
41. Kottmeier	1951	(Quoted in Int. Ab. Surg. **92:** 521, 1951)	Unknown	
42. Kottmeier	1951		Unknown	
43. Kottmeier	1951		Unknown	
44. Graham and Meigs	1952	(Am. J. Obst.-Gynec. **64:** 1159, 1952)	7	6
45. Howell	1952	(Canada M. A. J. **66:** 557, 1952)	Unknown	
46. Petersen	1952	(Acta. Radiol. **38:** 49, 1952)	5	2
47. Petersen	1952		2	1
48. Petersen	1952		2	1
49. Petersen	1952		2	2
50. Petersen	1952		2	5
51. Petersen	1952		5	2
52. Petersen	1952		0	5
53. Petersen	1952		1	1

TABLE 2—*Continued*

Author	Date	Source	Time Interval	
			Year	Month
54. Petersen	1952		1	5
55. Petersen	1952		2	2
56. Petersen	1952		2	3
57. Petersen	1952		2	5
58. Petersen	1952		3	11
59. Petersen	1952		5	7
60. Gusberg and Moore	1953	(Ob.-Gynec. **2:** 1, 1953)	2	3
61. Gusberg and Moore	1953		3 approx.	
62. Hoffman, Farell and Hahn	1953	(J.A.M.A. **151:** 535, 1953)	4	0
63. Carson and Gall	1954	(Am. J. Path. **30:** 15, 1954)	2	0
64. Carson and Gall	1954		6	0
65. Carson and Gall	1954		12	0

Meigs in 1952 could possibly be controversial.[44] The patient was diagnosed as carcinoma in situ and treated with a hysterectomy. Seven and a half years later squamous cell carcinoma of the vaginal apex was discovered. The authors considered the possibilities of missing an invasive lesion in the hysterectomy sections or that the recent carcinoma was a new development totally unrelated to the previous in situ carcinoma, but they reject these possibilities in favor of extension of the original carcinoma in situ extending out on the vaginal wall beyond the area of resection, and later progressing to the invasive form. Blumberg reports an interesting case of recurrence of carcinoma in situ in the vaginal vault twenty-seven months following hysterectomy but no invasion could be found. It is because of this type of occurrence that Younge has advocated routine use of the Schiller test pre-operatively to determine the extent of the lesion and to demonstrate exactly how much vaginal cuff should be removed.[61]

These sixty-five cases of carcinoma in situ which have progressed to invasive carcinoma seem to establish the premise that carcinoma in situ is a preinvasive form of cancer. Most of these cases have been discovered by retrospective examination of cervical biopsies and uterine curettings from patients who later developed frank cancer. This does not diminish a bit from their validity, but rather points out emphatically that more retrospective studies would probably ferret out many more such cases. Galvin, Jones and TeLinde demonstrated this in 1952 when they reviewed 723 cases of carcinoma of the cervix diagnosed at the Johns Hopkins Hospital from 1940 to 1950. Twenty-one of these patients had had a cervical biopsy or uterine curettage one year or more previous to the discovery of their carcinoma. Retrospective examination of these twenty-one specimens revealed eleven of thirteen cervical biopsies as having carcinoma in situ and two of the eight curettings as carcinoma in situ. Younge and Hertig point out that patients with gland involvement are, on the average, younger than patients with surface involvement alone. This seems consistent with the concept that the glands are the favorite route of invasion, and with the fact that cervical smears have been found to be more easily and accurately diagnosed in cases with gland or early stromal involvement than in those cases of surface involvement.

Javert suggests a system of staging which is based on degree of involvement, i.e., breaking stage 0 into two components: 'intraepithelial' if the malignant cells are limited to the superficial epithelium, and 'in situ' if there is endocervical gland involvement.[68]

Very few gynecologic pathologists and gynecologists dispute that carcinoma in situ can progress to invasive carcinoma, but there is much controversy as to whether carcinoma in situ can spontaneously regress. Davis, in 1952, polled 160 gynecologists and pathologists on their attitudes on carcinoma in situ. The following summarizations are made from that poll:[45]

1. The majority consider carcinoma in situ as a preinvasive lesion and classify it as stage 0 cervical cancer.
2. The majority did not concur in the belief that carcinoma in situ can undergo spontaneous regression. This they held to be so, even in cases of carcinoma in situ during pregnancy, although the majority would not accept such a diagnosis during pregnancy.
3. The majority had never in their own experience observed spontaneous regression of carcinoma in situ. Only fifteen thought they had observed it in one or two patients; six had observed in three patients; and three stated that they had observed 'probable' regression.
4. The majority could not eliminate the possibility that regression following adequate biopsy may have constituted excision of the total lesion.

The majority opinion, therefore, is that carcinoma in situ is definitely a preinvasive lesion, and being such, does not regress spontaneously. Once the diagnosis is definitely established, the lesion demands treatment. There are some cases of apparent regression listed in the literature, although in none of them can total biopsy excision be ruled out. Diddle cites one such case four years after biopsy. Younge reports four such cases eighteen to twenty-four months after biopsy; and Wespi claims four such cases sixteen, ten, 6/12, and one and one-half years after biopsy respectively. None of these cases were pregnant, and the question naturally arises, in view of the small number, whether the original tissue diagnosis was inaccurate rather than the reversion of the preinvasive carcinoma. During pregnancy, there is a tendency to hold the diagnosis in abeyance until a postpartum biopsy can be obtained. In view of the relatively long latent period of invasion of true carcinoma in situ, this seems most reasonable. The epithelial deviations in the cervix which occur during pregnancy are mostly in the direction of hyperactivity.[36] This hyperactivity is thought to be due to the hormonal influence associated with pregnancy, and is presumably reversible. Greene, however, disagrees.[49] If the criteria for preinvasive carcinoma are present, the diagnosis should be made regardless of pregnancy. In fourteen cases which he diagnosed as carcinoma in situ during pregnancy, twelve of the lesions persisted postpartum, and all had hysterectomies at periods ranging from seven weeks to twenty-nine months postpartum. Hellman reports six cases which, in the absence of pregnancy, he would call carcinoma in situ. None of these patients, up to two years postpartum, has developed clinical cancer. Subsequent biopsies have revealed disappearance of cellular hyperactivity. Mullen and Foraker cite a patient in whom the diagnosis of carcinoma in situ was made early in pregnancy.[60] Biopsies of the cervix were taken at the 4th, 5th and 7th month prepartum, and six and seven months postpartum. These slides were reviewed by Hellman, Hertig, Novak, Pund, and Stewart. All but Hertig (who hedged on one slide) called the lesion carcinoma in situ on at least one slide. The post-hysterectomy slides were likewise reviewed after laparotomy seven months postpartum, and all agreed that only basal cell hyperactivity was demonstrated at that time. The general consensus, in view of these reports and the obvious cervical epithelial reaction during pregnancy, is to allow the patient to deliver, and to follow her postpartum with smears and biopsy.

Clinicians noted years ago that most invasive carcinoma is found in the region of the squamocolumnar junction.[21] This holds likewise for

carcinoma in situ. Schiller dogmatically stated that 100% of cervical cancers originate in the squamous margin of the squamo-columnar junction.[25] There seems to be widespread agreement on this point, although there is some variance of opinion as to the direction of spread of the lesion. Foote and Stewart reported that the spread was outward over the portio vaginalis, while Gusberg's and Pund and Auerbach's observations revealed that the lesion tended to spread inward through the endocervical canal. Younge agrees that peripheral extension onto the portio and beyond to the vagina is much less frequent, but emphasizes that such spread is disastrous if not recognized and removed.[61] He found vaginal involvement in two per cent of his cases of carcinoma in situ.

Foote and Stewart attempted to localize the preinvasive carcinoma to specific areas of the cervix. They devised a routine method of sectioning in which it was possible to ascertain the exact anatomical location of the microscopic lesion, corresponding to the hours of the clock. Twenty-seven cervices with known carcinoma in situ were sectioned. Their results indicate that if the biopsy is taken at either 12 or 6 o'clock, thirteen of twenty-seven cases will probably be diagnosed; if the biopsy is taken at both 12 and 6 o'clock, the rate rises to twenty of twenty-seven cases diagnosed. If quadrential biopsy at 12, 3, 6 and 9 o'clock is done, then twenty-five of twenty-seven cases will probably be discovered. For practical purposes, therefore, quadrential biopsy will discover the great majority of lesions.

In 1928 Schiller introduced his iodine test to localize areas of the surface of the cervix deficient in glycogen. Not all non-staining areas are malignant, however. It merely focuses attention to a suspicious area. Schiller was enthusiastic about the test and in 1934 he reported that by use of this method he discovered 130 cases of early carcinoma.[8] In many of these patients there was no discernible macroscopic lesion of the cervix. More recently the test has been used at time of operation to determine the probable involvement of the vaginal cuff. The vaginal epithelium reacts to the iodine the same as the cervix, and the lesion can be delineated easily.[61]

Punch biopsy and excision biopsy with the knife have been the most widely used of early diagnostic means. It is well to point out that biopsy is a simple and harmless office procedure. Many practitioners still seem hesitant to perform biopsies, but it should be stressed that little harm can result from the procedure. The slight amount of bleeding that might occur can easily be controlled by inserting a vaginal tampon. Throughout the literature prominent gynecologists make reference to the ease and safety of cervical biopsy in an attempt to obtain early diagnoses, rather than waiting for the frank, clinical cancer to appear.[11] As reported above, quadrential biopsy will reveal the great majority of lesions even in the very early stages.

The obvious advantages of examining the cervical secretions and cervical scrappings attracted the attention of Papanicolaou to this diagnostic means. The literature is literally full of articles extolling the virtues of vaginal and cervical smears, but they won a slow reception from the earlier gynecologic pathologists whose criteria of malignancy revolved around the question of invasion or not. "Surface biopsy" and smears have proved themselves, however, and the ease of obtaining them has endeared them to the cancer detection clinic heart. Particularly in the cervix which has no demonstrable lesion the cytologic diagnostic means are valuable. Obtaining a vaginal smear or cervical smear or scraping is a simple task and can be done easily by the physician who is reluctant to biopsy the cervix.

In most hands the vaginal smear has been the more easily managed of the cytologic procedures, but, on the whole, cervical smears and scrapings seem to have a higher index of accuracy. Hertig in particular has been adept at vaginal smears. In 1949 he reported an accuracy

of 93% in those cases of carcinoma in situ diagnosed by serial sectioning which had had prior vaginal smears, and in which there was glandular or early stromal involvement. In those cases with surface involvement only, the accuracy was only 53%. In 1952 Hertig reported on 9748 patients who had vaginal smears from the posterior fornix, and in whom sixty cases of carcinoma in situ were diagnosed. Forty-two of these were diagnosed by smear prior to biopsy or hysterectomy, and the other eighteen were diagnosed by smear after biopsy or hysterectomy, but with the pathologist ignorant of the tissue findings. Again the accuracy was higher in cases with glandular involvement (81%) compared to those with surface involvement alone (54%).

Ayre found that the cytology of the cervical canal was considerably different from that of the vagina, and in 1946 began concentrating on cervical smears and scrapings.[20] He found that in malignant cases the cervical smears, although cluttered with more mucus and leukocytes than smears from the vagina, also contained a greater concentration of malignant cells.[30] In recent years Gusberg, Cuyler, Graham and Meigs, Nieburgs and Pund, and Reagan and Schmidt, among others, have done much work on the cytologic problem. Reagan in particular has been very active, and he is of the opinion that cervical smears and scrapings can be read to such a degree of accuracy that the degree of invasion in a carcinoma can be consistently predicted on the basis of cellular morphology alone.[40] Pund and Nieburgs in 1952 maintained that there were "specific" cells in the smears which distinguished the preinvasive from the invasive cancer. The degree of accuracy obviously is directly proportional to the degree of experience and enthusiasm in the cytologic method. The results obtained by six different teams of investigators using cervical smears in the diagnosis of cancer of the uterus are shown in Table 3. The accuracy is based on the percentage of positive smears in patients with histologically proven malignancy.

TABLE 3

	Carcinoma of cervix	Carcinoma in situ	Carcinoma endometrium
	%	%	%
Gusberg (Sloane Hospital)	84.2	83.4	69.4
Carter and Cuyler (Duke University)	91.5	23.0	74.6
Day (Strang Clinic)	100.0	96.8	77.7
Graham and Meigs (Mass. General)	90.0	87.5	not evaluated
Nieburgs and Pund (Georgia)	81.1	82.3	50
Reagan and Schmidt (Western Res.)	100.0	91.0	88

Brunschwig and Papanicolaou have recently collaborated in the use of the Draghi detection vaginal tampon.[64-65] The tampon is inserted in the vagina by the patient and left intravaginal for a period of time ranging from five minutes to overnight. Upon withdrawing the tampon from the vagina it is smeared, fixed and stained. Papanicolaou has found that the resulting smears are excellent, especially if the tampon is left in overnight. This method would seem to be of some advantage, particularly in the squeamish patient who resists examination.

In view of the splendid results obtained by those pathologists well acquainted with the technic, it is futile to deny the obvious advantages of cytologic studies. As a screening test to be used on large numbers of apparently normal women, it is certainly easier to administer than a program of biopsying each cervix. If its limitations are understood, and practicalities of personnel and economics are considered, it should certainly be accorded its proper niche in the diagnostic armamentarium of the physician. In most hands it is not a definite diagnostic tool, but it does screen the suspicious from the innocuous. Even in the hands of experts, it should be considered a screening test. None have been rash enough to claim for cytology the accuracy of biospy. Even the most ebullient of the enthu-

siasts follow positive and suspicious smears with biopsy. The cytologic criteria for diagnosis of malignancy are well known and will not be reviewed here, but for an excellent review see Reagan, *Cancer* 4: 255, 1951.

In any discussion of carcinoma in situ it must be kept in mind that diagnosis is a microscopic one, and must not be considered synonymous with International Classification stage 0, which is a clinical designation. Zero seems to express very adequately the clinical appearance of the cervix in most cases. There is remarkable unanimity among the authorities that the cervix harboring a preinvasive lesion is almost always clinically non-exciting. Paraphrasing their comments, the authorities report the following:

Younge and Hertig (1949)—only 6% even remotely suggested malignancy—bled easily on manipulation.

Pund and Auerbach (1946)—no suggestion of carcinoma. Cervix clinically lacerated or everted in 71%.

Diddle (1949)—67% had erosions. Seldom anything else.

Foote and Stewart (1948)—half had no symptoms. Only 4 of 24 cases were even suspected of having Ca.

Carter (1952)—87.8% were thought benign. 65% were thought to have cervicitis.

Petersen (1952)—even many of the invasive cases were clinically benign and diagnosed only microscopically.

No more striking evidence can be present in favor of routine biopsy or smear. It is in the clinically benign that we hope to discover the microscopically preinvasive. Many an in situ lesion may have been cauterized with complete healing, but the spectre of the recurrent carcinoma should convince the practitioner of the value of diagnosis before treatment.

The incidence of carcinoma in situ varies somewhat from clinic to clinic, but except for a few isolated reports such as Hoffman who found only three cases of carcinoma in situ and 683 cases of invasive cervical carcinoma in 8312 biopsies, the incidence is comparable to that of squamous cell carcinoma of the cervix. According to the reports of most investigators the overall incidence seems to vary from 0.5 to 1.0% of all patients observed. However, the age at which the diagnosis is made is, on the average, about ten years earlier than that of invasive carcinoma. The age incidences as reported in the literature are:

	Average Age (yrs.)
Petersen (1952)	38.7
Pund and Auerbach (1946)	36.6
Diddle (1949)	36.2
TeLinde and Galvin (1949)	37.1
McKay, Younge and Hertig (1954)	38.7
Carter and Cuyler (1952)	40.1
Skapier (1952)	46.9
Stevenson and Scipiades (1938)	46.0

The average age for invasive carcinoma of the cervix is generally considered to be forty-eight years. The age at which carcinoma in situ is diagnosed will obviously depend upon whether the patient has need of professional services at an early or at a later age. If the premenopausal patient with leukorrhea and cervicitis seeks medical attention, she will be diagnosed earlier than her sister who is postmenopausal and seeks attention only when bleeding is noted. Routine pelvic examinations on all patients is a must if early lesions are to be discovered.

Numerous reports in the literature point out that carcinoma in situ and carcinoma of the cervix are both much less common in Jewish women than in non-Jewish. The reasons for this are unknown, although fanciful reports on the effect of circumcision of the husband and the resultant lowered incidence of carcinoma of the cervix have appeared from time to time.

The management of a case of carcinoma in situ depends primarily on the unqualified diagnosis. If there is any hedging, any doubt as to the malignancy of the lesion, then diagnosis has not been completed. Correct treatment depends

on too many factors to be compromised initially by misdiagnoses. TeLinde's warning in 1933 that too many hysterectomies were being performed on patients diagnosed as having "precancerous" lesions, without sufficient diagnostic workup, is still pertinent today. The ideal may not always be attainable, but it should be attempted.

Carcinoma in situ is not an emergency. There is always time for repeat diagnostic studies and pathologic consultations. Galvin and TeLinde postulated the following three possibilities when the initial diagnosis is made:

1. The biopsy was taken from the periphery of an advanced cervical cancer as was originally described by Schottlander and Kermauner.
2. Microscopic invasion is present elsewhere in the cervix.
3. Only carcinoma in situ is present and no invasion has occurred.

The importance of accurate diagnosis is manifest if the first two possibilities obtain, while assurance that the latter obtains, allows a more optimistic prognosis when treated conservatively.

The initial diagnosis is frequently a result of cytologic smears and scrapings. If one smear or more is found to be positive, a histologic diagnosis from the cervix itself is mandatory before any type of definitive treatment is instituted. The punch biopsy is the most widely used method to determine the degree of invasiveness, if any. There are limitations to the punch biopsy method, but for large scale, relatively inexpensive diagnoses on ambulatory patients it is the most practical method. A certain number of biopsies will miss the lesion since there is frequently no target area macroscopically. If there is some justification for suspecting malignancy, therefore, a negative biopsy should be followed by repeated cytologic studies and biopsies.

If one strongly suspects malignancy, even in the face of a negative biopsy, or if the biopsy shows some atypical epithelial changes, then cold knife conization is indicated. Serial sections of a cervical cone are our most accurate practical ways of definitely ruling out malignancy. If the cytologic studies continue to show malignant cells, then D & C and conization should be done. Carter, Thornton, Ayre, and many others consider cold knife conization as the safest and most accurate method of diagnosis, but their enthusiasm for this relatively simple procedure as a diagnostic means does not necessarily extend to its use as definitive treatment.

Because of the occasional occurrence of cervical strictures, some men hesitate to cone cervices. Cervical stenosis can easily be prevented by good follow-up care in the office, however. There seems to be at least statistical evidence that the size of the cone excised has some effect on the development of the stricture. If the internal cervical os is spared, the likelihood of stenosis is materially reduced.

There is much less enthusiasm for amputation of the cervix, particularly in the younger age patient. There is considerable agreement that amputation has few of the advantages of, and many more disadvantages, than conization.

If the punch biopsies disclose carcinoma in situ, many authors still consider it wise to conize. This reduces to a minimum the chance that one is handling an occult invasive cancer. Thornton in 1954 reported thirty cases of preinvasive carcinoma in which conization was done after the initial diagnosis.[59] Serial sectioning disclosed carcinoma in situ in eighteen, invasive carcinoma in five, and no malignancy in seven cases.

Once the diagnosis has been verified, then a plan of treatment should be instituted, taking into consideration the age of the patient, her reproductive status, her general operability, and that intangible—"personality." In Copenhagen at the Radium Center all cases diagnosed have merely been followed with periodic biopsies and curettings. Kottmeier has a series of over forty-two patients he has followed for periods

ranging from one to thirteen years. Up to 1951 only three of forty-two cases has developed clinical cancer. Karlstedt reports the aforementioned seventeen cases which progressed from preinvasive to invasive cancer. In this country there are some clinicians who are likewise following a plan of conservative therapy with their patients, particularly those who desire children. It is almost unanimous that surgery is the treatment of choice for in situ carcinoma of the cervix. Some investigators stop at conization, but the majority believe that total hysterectomy is the procedure of choice. In 1953 TeLinde reported on 165 hysterectomies performed for this condition. He performs a total hysterectomy, removing the uterus, a wide vaginal cuff, and a moderate amount of parametrial tissue. There have been no deaths from cancer in these cases. Some of the operations date back twelve years. Fifty of them were over five years post-operative. The only death in TeLinde's cases of carcinoma in situ was a patient who was irradiated because she was a poor surgical risk. Younge in 1954 reported on twenty-nine patients treated with lesser procedures than hysterectomy because they desired children.[61] Six subsequently became pregnant. Of these twenty-nine none had developed invasiveness up to the time of this printing. However, in an earlier series of forty-three patients treated with minor procedures such as cauterization, Younge had a recurrence of cancer in fourteen cases. Thus, almost one-third of the cases were not cured by the minor surgical procedures. Total hysterectomy in cases where reproduction is no consideration is the present treatment of choice.

In some young patients who desire to have children total hysterectomy may be unacceptable, but in these cases the responsibility should be borne by the patient. The risk should be presented to the patient and if she refuses definitive surgery then careful follow-up with smears and biopsies is imperative. More radical means than conization are considered superfluous by many authors, although no results to date equal TeLinde's. Very few clinicians recommend the use of radiation alone in the treatment of carcinoma in situ. McKelvey is the noted exception, although he does not protest if radical surgery is performed.

The following are cases of carcinoma in situ treated at St. Agnes Hospital within recent years, with an outline of their management.

Case Histories

1) A.B., 46 year old gravida 3. Adm 11/10/53 on the Medical service, and a pelvic exam was negative. In the Spring of 1954 she had a positive smear at a cancer detection clinic. Biopsy by physician was diagnosed as carcinoma in situ. Admitted to hospital with a clinically benign cervix, and asymptomatic. 6/3/54. Conization performed. 6/4/54. Pathology report—Epidermoid Carcinoma, stage 0 (preinvasive carcinoma in situ). On 6/28/54 the patient had panhysterectomy and BSO. Multiple sections disclosed no residual carcinoma.
2) L.M., 33 year old gravida 4. Admitted 6/21/48 following a spontaneous incomplete abortion. Cervix was eroded. D & C and biopsies were done. Pathology report—Interval endometrium, decidual tissue, probable squamous cell carcinoma. The glands were filled with squamous islands. On 7/27/48 a panhysterectomy and LSO were performed. Pathology report—epidermoid carcinoma cervix (early).
3) L.L., 42 year old gravida 6. Admitted 3/26/54 for leukorrhea of 6 months duration. Two vaginal smears were positive for malignancy prior to admission, but 1 outpatient biopsy was negative. D & C and cervical biopsy performed. Pathology report—Squamous cell carcinoma cervix (limited to surface). On 4/12/54 a modified Wertheim hysterectomy and BSO were performed. No residual carcinoma found.
4) V.J., 26 year old gravida 2. Admitted 5/20/54 for intermenstrual bleeding of four months duration. Previous vaginal smear and biopsy by private physician had disclosed carcinoma in situ. On 5/21/54 a modified Wertheim hysterectomy and LSO were performed. Pathology report—preinvasive squamous cell carcinoma of the cervix.
5) D.M., 35 year old gravida 1. Patient had a biopsy at a cancer detection clinic which was diagnosed as carcinoma in situ. A repeat biopsy confirmed the diagnosis. Adm. 12/3/50 and on 12/4/50 had a panhysterectomy and LSO. Serial sections by the pathologist revealed carcinoma in situ.

6) M.G., 33 year old gravida 3. The patient had a positive smear at a cancer detection clinic. Repeat smear was likewise positive. Biopsy in physician's office was carcinoma in situ. Admitted 9/16/54 for D & C and conization. Erosion on posterior lip of cervix. Conization and D & C done on 9/16/54. Pathology report—carcinoma in situ, uterine cervix. Patient has refused follow up so far.

7) A.L., 44 year old gravida 1. Repeated smears were positive and repeat outpatient biopsies showed preinvasive carcinoma. Biopsy last done 12/14/54; pathology report—Epidermoid carcinoma, stage 0. On 1/3/55 the patient had a total hysterectomy and RSO. Multiple sections showed residual carcinoma in situ.

8) H.G., 30 year old gravida. Cervix clinically benign. Routine biopsy showed preinvasive carcinoma. On 7/30/51 the patient had a panhysterectomy. The pathology report—"An unquestioned epidermoid carcinoma of poor differentiation. It is quite early, but repeated sections of the cervix seem to definitely rule out a pre-invasive carcinoma or a carcinoma in situ. It is felt, however, that the degree of invasion is minimal and academic." Patient has shown no recurrence of carcinoma.

9) H.B., 39 year old gravida 3. On routine office exam 11/2/55 a smear was taken because of a clinically benign but eroded cervix. Reported as class V. On 1/11/56 the patient had a cold knife conization and D & C; pathology report—carcinoma in situ high in endocervical canal. On 1/14/56 the patient had a panhysterectomy and BSO. Pathology report showed no residual carcinoma.

10) M.N., 41 year old gravida 2. In July 1955 at a cancer detection clinic the patient had a smear which was reported as class IV. Biopsy and repeat smear done in November 1955—class IV and Basal Cell Hyperactivity. Sent to private physician who repeated the smear on a "RUSH" basis. Reported as class IV. Cold conization and D & C on 12/6/55 disclosed carcinoma in situ. On 12/9/55 the patient had a panhysterectomy and LSO. Hysterectomy specimen showed residual carcinoma in situ.

11) M.C., 28 year old gravida 6. Admitted to GYN service with dull low abdominal pain. Exam negative except erosion of cervix. Biopsy of cervix on 12/16/55 showed carcinoma in situ. Patient readmitted on 1/18/56 and had a panhysterectomy and RSO on 1/19/56. No residual carcinoma was found.

12) L.M., 30 year old gravida 3 delivered 7/13/55. At six week check-up patient had routine Pap smear which was reported as class IV. Smear and biopsy in October 1955 showed class IV and carcinoma in situ. D & C and cold conization on 11/25/55 disclosed no invasion and on 11/30/55 the patient had a panhysterectomy and RSO. No residual carcinoma found.

13) M.W., 33 year old gravida 2. She first noted postcoital bleeding in January 1955. Saw her family doctor in April and her cervix was cauterized with silver nitrate. She experienced no relief. A Pap smear in September was negative. Consulted a gynecologist in October and a biopsy showed carcinoma in situ, and a smear at that time was reported as class III. On 10/19/55 she had a D & C and cold knife conization, disclosing only pre-invasive carcinoma. On 10/21/55 the patient had a panhysterectomy and RSO. No residual carcinoma found.

14) P.A., 47 year old gravida 8. Routine cervical biopsy on 8/25/55 showed carcinoma in situ. On 9/19/55 the patient had a panhysterectomy and BSO. No residual carcinoma found.

15) G.H., 31 year old gravida 0. Admitted 6/30/55 on Medical service. Gyn consultation obtained because of sterility. Study disclosed bilateral tubal occlusion (there had been a known left salpingectomy). Cervical biopsy disclosed carcinoma in situ. There had been three previous operations for "pain in abdomen." On 8/24/55 the patient had a panhysterectomy and right oophorectomy. At operation it was found that both tubes and the left ovary had been previously removed. A Pap smear between admissions was class V. The pathology report on the hysterectomy specimen—"The neoplastic epithelium extends deeply into the mouths of some glands. In other areas, it appears to have broken through into the surrounding stroma." Diagnosis—Squamous cell carcinoma, uterine cervix.

There is frequently a delay of from two to four weeks between the biopsy diagnosis of carcinoma in situ and the definitive therapy in these cases. During this time the slides were shown to different pathologists and gynecologists. No patient was hysterectomized without agreement in the diagnosis by three qualified specialists in the field.

Conclusions

1. Papanicolaou cytologic smears and scrapings (surface biopsy) are an extremely important diagnostic aid in the detection of early preclinical carcinoma of the cervix and should

be more widely used, not only by the gynecologist, but also by the general practitioner. In the hands of a competent cytologist the per cent of error in diagnosis is extremely small.

2. Cervical biopsy is still the most important means of establishing a diagnosis, and multiple quadrential biopsies are preferable to random biopsy. These biopsies should be taken preferably at the squamo-columnar junction, and in cases where this is indefinite the use of Schiller's stain is helpful in pointing out the area to be biopsied.

3. When the initial smears or biopsies are positive for carcinoma in situ, diagnosis should be further established by repeat biopsy and/or cold knife conization of the cervix. Electrosurgical conization is not recommended here, first because the tissue thus removed is not suitable for detailed histologic study, and second, because of the high incidence of secondary infection associated with this procedure, thus making subsequent hysterectomy somewhat hazardous. We prefer to use the Ayre cervical cone knife and to remove the entire squamo-columnar junction area.

4. There can be no compromise in making the diagnosis of carcinoma in situ of the cervix. The criteria for diagnosis are well established. They are, briefly:

Loss of normal stratification of the epithelial cells.
Variability in the size and shape of the cells.
Nuclear hyperchromatism.
Cytoplasmic-nuclear ration inversion.
Complete undifferentiation.
These characteristics extending throughout the entire thickness of the cervical epithelium.

In cases where there is the slightest doubt as to the diagnosis, consultation by competent gynecologists and pathologists should be sought.

5. Once the diagnosis is established the condition should be considered a malignant process and treated as such. We feel that total hysterectomy with removal of a generous portion of the parametrium on each side, with or without preservation of ovarian function, is the procedure of choice. Pre-operative use of the Schiller test to determine the extent of the lesion with special reference to the extension of the process onto the vaginal wall should be performed more often. This allows one to more accurately determine the amount of vaginal cuff to be removed. In cases where carcinoma in situ is found associated with pregnancy there is minimal risk involved in allowing the patient to go to term before definitive treatment is instituted.

6. In those cases where hysterectomy is refused by the patient for one reason or another we feel that the minimum treatment should be wide conization of the cervix; and it is of utmost importance that these patients be followed with periodic examinations, repeated cervical and vaginal smears, and frequent biopsies.

Medical Arts Building
Baltimore 1, Maryland
(*Drs. J. C. & J. D. Dumler*)

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THE CARE OF PATIENTS WITH CLEFTS OF THE LIP AND PALATE

EDWARD A. KITLOWSKI, M.D.

During the past few years there has been much controversy concerning the most desirable time to repair the clefts of the lips and palates. This controversy has been publicized through lay magazines and the newspapers causing the parents of these patients much anxiety and indecision about whose advice to take so that the child will get the best possible result. The main factors will be presented and evaluated.

In order to simplify the problem, the clefts involving the lip alone will be considered separately from those involving the alveolar process and the palate.

There is some question again about the etiology in so far as the reason for the clefts occurring. The etiology is unknown but some feel that all of the tissue is present but has not grown together. Others feel that missing tissue causes the clefts to occur. Years ago, through careful histological studies, it was proven that there is a loss of tissue, whatever be its cause. This changed the plan of approach to the closure of the clefts of the lip by many surgeons with a resulting tremendous improvement in the appearance of the closed lip. It now, with the exception of some few very bad cases, results in a pleasing appearance. However, there are some surgeons who still believe in the other theory or through lack of experience, produce very unsatisfactory results. A patient with a poor closure of the lip is very obvious and creates the impression that there is generally some error in timing of the operation or in the usual technic. This has resulted in having the theory stressed by some that a lip should not be closed until a patient is three or four years old. The general consensus of opinion is that the closure should be done when the patient is from four to six weeks old, depending on its general physical condition. This permits the child to lead a normal life and relieves the parents of their anxiety.

The closure of the palate has presented a much greater controversy. In recent years some investigations have suggested that early operations on the palate result in bad malocclusions which may be extremely difficult to correct. Many surgeons, together with some orthodontists, have urged that closure of the palate be delayed until the patient is four to six years of age, thus permitting a more normal development of the bones of the upper jaw. They argue that the areas of bone growth which concern the forward thrust of the upper jaw are injured in early operations. There are several reasons why this reasoning appears to be fallacious.

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[1]Albertson, H.A. and Trout, H. H., Jr.: *Antibiotics Annual* 1954-55, Medical Encyclopedia, Inc., New York, N.Y., 1955, pp. 599-602.

[2]Prigot, A.; Whitaker, J. C.; Shidlovsky, B. A., and Marmell, M.: *ibid*, pp. 603-607.

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ROMYCIN ACHROMYCIN

The extent of the cleft varies greatly in most every case. The amount of separation in the alveolar process, which occurs between the maxillary process and the premaxillary bone on one or both sides, depending on the type of cleft, determine the size of the closed arch of the upper jaw. This loss is grossly noted by the failure of the lateral incisor teeth to appear, or, and, also the failure of the canine teeth to be present. This indicates that there is a loss of bone in these areas, hence the length of the upper jaw will be less than normal. This loss of bone can be demonstrated by serial sections taken from embryos with this deformity. This loss will then show itself in the amount of malocclusion which results. It has nothing to do with the forward thrust of the bones since these areas are in the region of the molars which are not influenced by the deformity.

In addition to the loss of tissue in the bone, there is also a loss of tissue in the hard and soft palate. Some patients have broad flaps of tissue which are also long in the area of the soft palate and uvula. Other patients have very broad clefts with scant tissue left in the palate and, therefore, the soft palate is very short. This can be present even when there is no cleft in the alveolar process itself. This situation creates a problem of closure which may impair the function of the palate to a great extent. It also produces a palate which evidently should not function as a normal palate because it is too small. It therefore appears evident that early closure should not impair the end result beyond the damage resulting from the absence of tissue. There is, however, in many cases, more impairment than can be accounted for by the original defect. It is this situation which causes much controversy and many arguments for a later closure of the palate. Some dentists try to use the situation to insist on dentures for little children to carry them over to an older age. This is a very expensive, unsatisfactory and dangerous procedure. Dentures must be replaced at least twice a year in a growing child; there must be eternal vigilance on the part of the parents to avoid accidents with the denture; the advantage gained is questionable.

The real reason for poor results rests to a great extent with the surgeon. The old theory propounded by Dr. Brophy that all the tissue is there but failed to unite is still used as a basis for the procedures used. A pin is pushed through both sides of the upper arch in the region of the premolars and a turn buckle applied. The turn buckle is tightened every few days, causing the bones to bend. The upper arch gradually loses its curve and begins to have the shape of a horse shoe. Closure is then possible but the resulting deformity is very bad, causing the worst kind of malocclusion. The premolars rest inside the teeth in the lower jaw. It also disfigures the face; a deformity of this type is irreparable.

The removal of the premaxilla or an incorrect adjustment of it in relation to the maxilla will cause an angulation in the arch, a deformity which makes correction of the malocclusion almost impossible. Packing of the lateral incisions, or the use of wire for tension sutures, produces fibrous tissue which when it contracts will effect the location of the teeth. This may result in the teeth being pulled inward, thus resulting in a severe deformity.

The attempt to do too much at one time at a too early age may result in a failure of the suture line holding, thus causing further loss of vitally important material. A complete palate, we feel, should not be closed at one sitting. The hard palate should be closed first and the soft palate one year later. The first operation should not be done until the patient is at least one year old. No mortality and a very high percentage of success justify these conclusions. Even with careful effort to obtain every possible benefit from the material at hand, the speech may be very poor.

Speech training then becomes a vital factor to rehabilitate the patient. A child two years old will not cooperate with strangers so formal

training must be delayed to a later age. However, the training need not be delayed. The mother should be instructed to give the child toys which the patient can blow; balloons, horns, etc. are suggested. This exercise helps to limber the palate and so massage the seam in the midline. The mother is also instructed to help the child in enunciating any words it says, especially those with an S or K sound. The posterior portion of the tongue is usually hypertrophied because it has been used to plug the opening. This makes the tip of the tongue difficult to extend itself and point behind the upper arch to make certain clear sounds. Constant and patient training will help this condition materially. Speaking the words clearly to the child permits it to hear the proper sound. A shortening of the upper arch also gives a smaller chamber for a larger tongue. The gradual adjustment of the tongue to its chamber takes time, so that it means patience on the part of the parents.

A fallacy which is gradually being corrected is that a long soft palate is vital to good speech. Recent investigations have demonstrated that training of the pharyngeal muscles is the secret of perfect, or at least very good speech. This training can be done best by a speech teacher trained in this phase of speech correction. Not every teacher of correct speech has this training. Most are concerned with stutterers and other defects resulting from difficulty with hearing. It becomes apparent that professional speech training for these individuals is a problem which should be the concern of the State, at least for those who are not in a position to buy it.

Dr. Robert H. Ivy[1], Chief of the Cleft Palate Division, Pennsylvania State Department of Health, reported that one child in every 762 births has a cleft of the lip and/ or lip and palate. This means that in Pennsylvania there are roughly three hundred children born each year with this deformity. It seems reasonable to assume that this same ratio exists in Maryland, a neighboring State, and, therefore, that in a period of ten years there will be over two thousand such individuals in this State. These people are handicapped in their adjustment to their communities by both their appearance and speech. Psychological maladjustment results and hence we have individuals who need help to avoid their becoming charges or have perhaps police records. One can enlarge in reference to difficulties in school adjustment; desirable employment; public ridicule, etc.

Organized drives for polio victims, heart research and cerebral palsy produces millions but there is no such organization for these patients. Moreover, rehabilitation for the cleft palate patients assures a greater opportunity for complete rehabilitation than many other groups of unfortunates. We do not intend to belittle the efforts of other organizations but the results one could obtain in rehabilitating the cleft group could be infinitely more gratifying.

The State Health Department is fully aware of this possibility and has made every effort to help in rehabilitating these patients. A Clinic was organized at the Medical School of the University of Maryland and it made excellent progress through the efforts of the Speech Training Department of the University at College Park. Economics caused this to be closed. Speech training centers have been organized by the State Health Department in certain areas in the State. However, the entire program must be financed more adequately. If the equivalent amount of money used to pave one mile of road in the State were diverted to the Health Department, very great progress could be made. The Speech Clinic at The Johns Hopkins Medical School is functioning, but it is entirely inadequate to meet the demand.

Summary

Clefts of the lip should be closed when a child is four to six weeks old.

Clefts of the hard palate should be closed when the child is one year of age.

Clefts of the soft palate alone can be closed when the child is eighteen months old.

Clefts of the soft palate, in a complete cleft, should be closed when the patient is about two years of age.

These arbitrary times have been selected because the best possible results can be obtained but they depend entirely upon the general physical condition of the patient. There is a definite loss of tissue both in the bones and soft parts which can play a great part in the resulting malocclusion and this is not influenced to any great extent by the time selected for closures.

Placing dentures in young children is a dangerous practice, expensive and of questionable value.

Rehabilitation of these patients by correct surgery and speech training should be the responsibility of the Welfare Department of the State when economic help is required.

3301 North Charles Street
Baltimore 18, Maryland

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FATAL HEMOLYTIC TRANSFUSION REACTION

CASE REPORT

ROBERT B. McFADDEN, M.D., and CLIFF RATLIFF, M.D.

The proper administration of whole blood is a life saving therapeutic measure many times. The serious complications that can and do occur as a result of this seemingly simple and commonplace procedure should not be overlooked. Recent medical literature contains many articles on blood transfusion reactions, but there seems to be a reluctance to report fatal accidents. This is especially true of those tragedies due to preventable technical errors. It is reasonable to assume that only by the publication of these unfortunate mistakes can a sincere effort be made to correct them.

The purpose of this paper is to report such a preventable accident with suggestions for safeguards. We hope that such a report will aid in the prevention of similar errors in transfusion therapy.

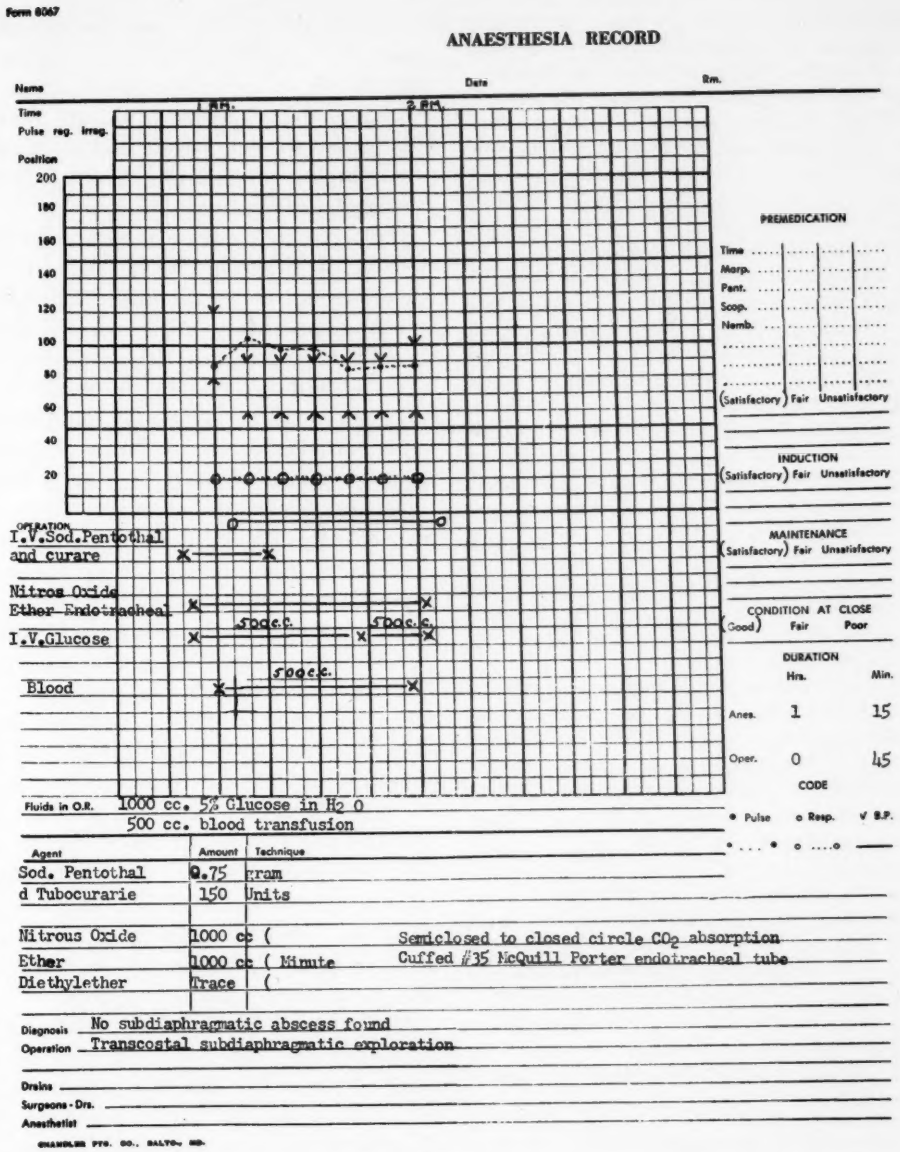
The seriousness of transfusion reaction is best illustrated by a review of available statistics. Kilduffe and de Bakey reported a review of 43,284 transfusions from the literature. Hemolytic reactions were reported in 1.8 cases per thousand transfusions with a mortality rate of 1.4 per thousand. Alexander S. Wiener et al., reporting on the medico-legal aspects of blood transfusion, state that one death occurs in every one to three thousand transfusions even in the best run institutions. Using these figures as a guide, somewhere between 3,500 and 5,000 reported fatalities should occur annually in the United States where 3,500,000 blood transfusions are given.

Case Report

Mrs. H.L. a 53 year old moderately obese white female was admitted to the Surgical Service of St. Agnes Hospital, November 21, 1953. She presented the clinical signs and symptoms of a recurrent attack of cholecystitis. She responded well to supportive therapy and on November 23, 1953 a cholecystogram revealed multiple small stones.

On November 23, 1953 a cholecystectomy and transduodenal choledochotomy with dilatation of the sphincter of Oddi and T-Tube drainage was done.

The immediate postoperative course which was characterized by septic temperature, right upper quadrant pain and right shoulder pain was somewhat stormy. Serial X-ray studies from December 7, 1953 to December 13, 1953 were considered pathognomonic of a subphrenic abscess. The radiologic impression was further fortified


Form 8067

ANAESTHESIA RECORD

Name Date Rm.

Time 1 PM. 2 PM.

Pulse reg. irreg.

Position

200 180 160 140 120 100 80 60 40 20

PREMEDICATION

Time .....

Morp. .....

Pant. .....

Scop. .....

Nemb. .....

(Satisfactory) Fair Unsatisfactory

INDUCTION

(Satisfactory) Fair Unsatisfactory

MAINTENANCE

(Satisfactory) Fair Unsatisfactory

CONDITION AT CLOSE

(Good) Fair Poor

DURATION

	Hrs.	Min.
Anes.	1	15
Oper.	0	45

CODE

• Pulse o Resp. V B.P.

OPERATION

I.V.Sod.Pentothal and curare

Nitrous Oxide Ether Endotracheal

I.V.Glucose 500c.c. 500c.c.

Blood 500c.c.

Fluids in O.R. 1000 cc. 5% Glucose in H_2O

500 cc. blood transfusion

Agent	Amount	Technique
Sod. Pentothal	0.75	gram
d Tubocurarie	150	Units
Nitrous Oxide	1000 cc	(Semiclosed to closed circle CO_2 absorption
Ether	1000 cc	(Minute Cuffed #35 McQuill Porter endotracheal tube
Diethylether	Trace	(

Diagnosis No subdiaphragmatic abscess found

Operation Transcostal subdiaphragmatic exploration

Drains

Surgeons - Drs.

Anesthetist

CHANDLER PTG. CO., BALTO., MD.

FIGURE 1

by a Surgical Staff Conference recommendation for immediate operative investigation of the right subdiaphragmatic space.

The operative exploration was carried out under general anesthesia on December 22, 1953 at 1:00 p.m. An incision was made directly over the right twelfth rib and the rib excised subperiosteally. The liver dome was explored uneventfully, during which time the patient was receiving 500 cc. of whole blood without any detectable untoward signs. In retrospect it is recalled that there was considerable oozing during closure of the wound, but a recheck of the operative sheet showed no significant fluctuation of the pulse or blood pressure.

The patient reacted on return to her room about one

hour and fifteen minutes after the beginning of surgery and complained of a severe chill. Her blood pressure was 70/60 and pulse 108. During surgery the blood pressure was stable at 100/60 and the pulse varied from 86 to 104 so the immediate postoperative hypotension was not considered significant. (See Figure 1.) The patient was given 100 mgm. of Demerol and her symptoms apparently abated. Recheck of the patient at 4:45 p.m. revealed her to be in profound shock with her dressing saturated with a dark hemolytic type of blood.

Immediately blood volume expander solution with vasopressor substances were started intravenously and followed in a few minutes by the administration of whole blood. The wound was reopened under local analgesia and a generalized venous oozing was encountered. The wound was packed with oxycel gauze and a pressure bandage applied. A catheterized urine specimen obtained at this time showed not only hemoglobinuria, but also, the presence of whole red blood cells too numerous to count. A morning urinalysis taken preoperatively was entirely negative. Several rechecks on the typing and cross-matching of the blood received at operation showed no evidence of incompatibility. Despite these laboratory findings the patient was treated vigorously for a severe hemolytic transfusion reaction with 2000 cc. of whole blood, vasopressors, sedation and oxygen.

An immediate response to this therapy showed a rise in blood pressure with generalized vasomotor improvement. This improvement was short lived, however, and despite all these heroic measures the state of peripheral vascular collapse became progressive and the patient expired at 5:00 a.m. December 23, 1953. Terminally there was bleeding not only from the operative wound but also from a cut down incision, multiple vena puncture sites, and the oral, vaginal and rectal mucosa.

The remainder of the whole blood from the transfusion flask was reclaimed the next day and typing and cross-matching with the patient's cells and sera revealed a gross incompatibility. The patient who was type O Rh + received 500 cc. of type AB Rh + blood at operation. The mistake was made in the donor room where the typing tubes from an O donor were placed on a flask of AB donor blood.

Discussion

The above case illustrates several important aspects of transfusion therapy, not the least of which, is that serious and fatal errors in the transfusion chain of events can begin in the donor room.

Serious hemolytic transfusion reactions offer a very poor prognosis, as indicated by the statistics of Kilduffe and de Bakey, and the only effective treatment is prophylactic. The patient who receives 300 cc. or more of incompatible blood will not as a rule respond to therapy no matter how heroic. In fact, Digilio and Hockwald report a fatality in a patient receiving only 150 cc. of mismatched blood.

The prevention of these accidents can only be effective if the blood bank and all related operations are under the direct supervision of and the responsibility of the doctor in charge of the Clinical Laboratory. Safety measures to be effective must begin in the blood donor room and demand the cooperation of all personnel.

The mistakes that can be made in the donor room are two in number. The donor bottle or typing tubes may be mislabeled or the tubes inadvertently attached to the wrong donor flask.

To prevent these errors it is first necessary to impress the blood donor room technicians, interns or externs with the seriousness of their task and make them aware of the dire consequences that can occur through carelessness. Secondly, the donor room should be equipped so that donors, donor flasks and typing tubes are physically so separated that confusing one with the other is virtually impossible. Individually equipped and partitioned donor stations would seem to answer this problem in large hospitals with an active blood bank. Smaller less active institutions should insist that the blood of one donor be taken, labeled and stored before a new donor is allowed in the donor room.

The collected blood is next handled by the laboratory staff who are responsible for blood group typing, Rh determination, serological tests, etc. Errors by trained personnel usually occur in the realm of less serious incompatibilities, such as, cold agglutinins, high titer serum agglutinins in O type blood or intra group Rh factors. In these cases agglutination may be overlooked because of immediate hemolysis of red cells, late agglutination or defective typing sera. Major incompatibilities on the other hand may be overlooked in an emergency by inex-

perienced house officers called on to perform an occasional type and cross matching.

The preventive steps to be followed in the laboratory would be those directed towards the scrupulous checking of all typing and cross-matching with proper labeling of donor flasks with recipient's names, and the acquisition of the best laboratory equipment and necessary typing sera. The problem of the use of untrained personnel in an emergency could best be answered by rotating trained Laboratory Technicians on night duty for twenty-four hour laboratory coverage.

The next phase of transfusion therapy is the actual administration of the blood. Whole blood is usually given under three sets of circumstances all of which will be considered.

First is the dramatic use of whole blood in the case of hemorrhagic shock where this fluid is a heroic life saving therapeutic measure. The second circumstance is the more routine, less heroic preoperative, postoperative or medically indicated transfusion given to establish a more normal blood picture in a clinically anemic patient. The last and probably the most dangerous set of conditions under which blood is given, either electively or on an emergency basis, is when the recipient is under anesthesia.

A fundamental first principal in the handling of blood is to first, read the label and make sure it is the blood intended for the patient. The neglect of this simple precaution has undoubtedly been responsible for many serious transfusion reactions.

Consideration of the emergency patient in acute profound hemorrhagic shock causes one to reach several reasonable conclusions. It is probable that such a patient who receives enough incompatible blood to suffer a serious hemolytic reaction would expire without clinical recognition of the etiologic factor. The initial clinical picture of shock would undoubtedly mask the similar signs and symptoms of transfusion reaction. These reactions are of no less import than those occurring under other circumstances, but unfortunately most probably go unrecognized. In this case prophylaxis cannot be over emphasized.

The next or elective transfusion given to the anemic patient, when indicated, offers a less serious problem. Here the clinician has an opportunity to detect a reaction before the patient has received a massive quantity of incompatible blood and thus prevent a fatal accident or minimize what would have otherwise been a very serious reaction. Thus in a properly supervised transfusion, one where the patient is observed by someone familiar with the signs and symptoms of transfusion reaction, serious or fatal accidents rarely occur. This precaution, though sometimes inconvenient to the hospital personnel, is well worth instituting.

The real problem is encountered with the patient who receives a transfusion under anesthesia. The first obvious safeguard when the transfusion apparatus is set up, is to read the label on the bottle of blood and make sure it is the blood intended for the patient. The erroneous use of a flask of blood not used in the previous operative procedure and inadvertently left behind in the operating room is not an unheard of occurrence. Signs of transfusion reaction are minimal to absent in the anesthetized patient and those that do occur are usually misinterpreted. The most consistently reported sign is that of increased oozing of blood from all tissues during surgery and there may or may not be a coincident rise in the pulse and drop in the blood pressure. This complication is usually treated by the increase in rate of transfusion, thus establishing a vicious cycle. Of course in the absence of any uptoward signs the transfusion is continued with all concerned unaware of the impending disaster. In such a case the postoperative picture of profound shock following an apparently successful non-traumatic operative procedure is to say the least, confusing.

Obviously there are no clinical measures that will be efficacious after the patient has received a massive quantity of incompatible blood, so to treat this complication is to prevent it. An added

safeguard to minimize the severity of a reaction is the establishment of a policy where all elective transfusions to be given during surgery, are started about a half hour prior to the induction of anesthesia. In this way a transfusion reaction may be discovered while it is still amenable to treatment. This routine still does not eliminate the possibility of reactions occurring after multiple or emergency transfusions of the anesthetized patient.

Summary

In summary we have presented a case of fatal transfusion reaction with suggestions for possible preventive therapy. The vast majority of the regrettable accidents are directly attributable to human error and neglect. To reduce these reactions is to be aware of them and all the necessary precautions to be followed. A well equipped and supervised transfusion service is a must even in the smallest hospital. Lastly if a reaction does occur it must be recognized immediately, checked by serum and urine studies and heroic emergency treatment begun at once.

19 Wynacrest Avenue
Catonsville 28, Maryland
(Dr. McFadden)
4605 Edmondson Avenue
Baltimore 29, Maryland
(Dr. Ratliff)

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5250 OBSTETRIC SADDLE BLOCK ANESTHESIAS AT ST. AGNES HOSPITAL

J. KING B. E. SEEGAR, M.D. and A. J. DEVLIN, M.D.*

Introduction

Saddle block anesthesia has supplanted inhalation anesthesia on the obstetrical service of St. Agnes Hospital in the last six years. Such a quasi-controversial procedure would not seem to lend itself to a private obstetrical service. Yet, in the past year 90% of the obstetric anesthesia has been saddle block because of its ease of administration, obstetrical compatability and safety.

* Former Resident, Obstetrical and Gynecological Service, St. Agnes Hospital.

At the present time considerable interest is being manifested in obstetric anesthesia with emphasis on the relative safety and effectiveness of various agents. This emphasis is not accidental. It is due to the recognition of a long standing neglect of obstetric anesthesia and the general unsuitability of the obstetrical patient to accepted methods of surgical anesthesia. Indeed, there are many who feel that anesthesia will replace hemorrhage and infection as the principal cause of maternal death.

Many decry the lack of trained anesthesiologists and anesthetists available for obstetric anesthesia. This problem is not localized to hospitals the size of St. Agnes. Obstetric anesthesia in many large teaching hospitals and maternity centers consists of inhalation anesthesia administered by untrained personnel. The availability of trained anesthetists in sufficient numbers to adequately maintain obstetric anesthesia coverage is both improbable and impractical.

Material

An average of 1200 obstetric anesthesias are administered at St. Agnes each year. In 1949 there were 385 saddle block anesthetics administered or 33% of the total number of obstetric anesthesias. There has been a gradual increase in the number of saddle block anesthetics since 1949 with a corresponding decline in the number of other anesthetics. In the past year 1141 of the 1267, or 90% of the obstetric anesthetics have been saddle block.

In the selection of cases for saddle block anesthesia certain general contra-indications are observed:

1) Rapid and advanced labor
2) Neurological disease, past or present
3) Refusal of patient for pertinent reasons
4) Marked hypotension (B.P. less than 100/60)
5) Eclamptic patients
6) Certain abnormal presentations, e.g. compound

Table I

Year	No. of Anesthesias	No. of Saddle Block	Other	% Saddle Block
1949	1159	385	774	33
1950	1155	826	329	71
1951	1245	947	298	76
1952	1249	995	254	79
1953	1167	956	211	82
1954	1267	1141	126	90
Total	7242	5250	1992	

Contrary to popular opinion we routinely use saddle block for breech presentation and very frequently with multiple pregancy with excellent results.

Technique

The premedication routine for patients receiving saddle block anesthesia consists of 100–200 mgs. of Seconal with the onset of labor. Demerol, Scopolamine and Trilene are used in amounts compatible with the patient's pain threshold and duration of labor.

Primagravida are saddled when crowning while multigravida are saddled with full dilatation and descent to the perineal floor.

An autoclaved saddle tray consisting of sponges, forceps, two #22 spinal needles, 2 cc. syringe, file, sterile gloves, 2 cc. vial of Heavy Nupercaine and Tr. of Zepherin prep solution is made available.

The patient is placed in an upright position by the nurse. The intern then dons the sterile gloves, opens the vial of Nupercaine and draws 1 cc. (2.5 mgm.) into the 2 cc. syringe using the #20 needle. He next preps the patient widely between the iliac crests from T_{10} to S_1 using the sterile forceps and sponges saturated with Tr. of Zepherin. Using the iliac crests for landmarks he now localizes the vertebral spines and introduces the #22 spinal needle below L_3 or L_4. The stylet is removed after entrance into the subarachnoid space has been gained. Nupercaine 1 cc. (2.5 mgm.) is introduced over a period of 10–15 seconds between uterine contractions. The patient remains upright for 25 seconds after withdrawal of the spinal needle. She is then placed flat with the head supported by a double pillow. Blood pressure and fetal heart are taken immediately and every five minutes until stabilized.

Local skin infiltration is not used with the spinal needle as it is time consuming and unnecessary with the premedication of labor.

Results

From December 31, 1948 to January 1, 1955 there were 5,250 saddle block anesthetics administered. These were given by the house staff who received no formal training in anesthesiology. A large percentage of the officers giving these anesthetics were the first year interns who rotate two months through obstetrics. Follow-up of the results of these anesthetics through the patients for a period of time proved difficult and consequently their physicians have been contacted for any serious sequelae. A large majority of these physicians were family doctors who followed the cases through their general practice for a period of years. None of them reported any serious complications or mortality resulting from the anesthetic. Our hospital records revealed no mortality or paralysis, transient or permanent.

The 1141 cases of saddle block anesthesia for the year 1954 were analyzed for hypotension, post spinal headaches, respiratory complications and neurological complications as shown in Table II. Hypotension was defined as a drop in the systolic B.P. below 100 mm. of mercury. This offered no serious problem, occurring in eighteen or 1.6% of the cases and was amenable to treatment by elevation of the feet and administration of Ephedrine 25 mgm. I.V.

The headaches listed were postural in nature and were listed as such only if the patients voluntarily complained of them. For psychological reasons it has been our policy not to suggest the relationship of headaches, which probably accounts for our small percentage. In this series we encountered 52 post spinal headaches for an incidence of 4.6%. We encountered in the group no respiratory complications, and only one neurological complication which we do not feel was attributable to the anesthetic. This was a case of meningococcal meningitis occurring within 24 hours of the anesthetic. The following is a short case report.

Table II

Cases	Hypotension	Headache	Respiratory	C.N.S.
1141	18 or 1.6%	52 or 4.6%	0	1

Case # (198877). The patient, a Para 3-0-0-2, was admitted at 12:20 a.m. on 6/19/54 complaining of severe back pain although not in labor. Labor ensued and at 8:47 a.m. 6/19/54 she received a saddle block anesthesia with a subsequent normal delivery. At 8:00 a.m. 6/20/54, or approximately 24 hours later, the patient complained of headache and nausea with a mild chill. These were followed by nuchal rigidity with positive Kernig and Brudzinski's signs. A spinal tap performed at this time produced a grossly purulent fluid. Subsequent smears of the spinal fluid were positive for meningococci. The patient responded to routine chemotherapy and was discharged as recovered.

Comments

Our interest in saddle block anesthesia was stimulated through a number of articles in the literature pointing out the need for properly supervised and improved obstetrical anesthesia, and by several articles strongly condemning saddle block anesthesia as extremely dangerous.

Moreover we were interested in using an anesthetic that has the following attributes:

1. An anesthetic that is safe for both mother and baby.

2. An anesthetic that is easy to administer, and one in which personnel can be quickly and easily trained.

3. An anesthetic which alleviates pain of delivery for the patient while still inducing complete relaxation for the benefit of the obstetrician.

4. In short we feel there is an urgent need in obstetrics at the moment for a safe, satisfactory anesthetic that can be administered to the average patient by a member of the house staff with ease, following a short period of indoctrination.

From a survey of the literature, one is left with the feeling of a crusader for the need of better obstetric anesthesia. Though there is a de-

crease in obstetric mortality from eclampsia, post partum hemorrhage and infection, there seems to be an increase in the mortality from obstetric anesthesia. This deploring fact we feel stems from several causes. First, as pointed out at a recent panel discussion of the Sixth American Congress on Ob. & Gyn., that by far the majority of obstetric patients are delivered in the smaller hospitals. Thus from a practical standpoint, comprehensive coverage of obstetrical anesthesia is impossible both from the lack of finances and trained personnel. Secondly, it appears from the literature that the majority of these deaths arise from a poor choice of anesthetic, poor preparation of the patient, or excessive dosage, all indicating the administration of the anesthetic by probably untrained personnel.

Hingson and Hellman most aptly show that since nearly one-third of the anesthetics in America are for obstetrics, there is a great need for the organization of obstetric anesthesia to be on a 24 hour basis and that supervision and training be under the departments of anesthesia and obstetrics. They state that only a few hospitals in the U.S. have facilities for 24 hour obstetric anesthesia. In view of the fact that obstetric anesthesia is a prominent cause of maternal mortality, we believe the subject is a most pressing one. Hingson ranks anesthesia fifth, as a cause of maternal death and Penman ranks it third. In an analysis of 330 maternal anesthetic deaths in the U.S. and Great Britain, Hingson and Hellman pointed out that 155 were from aspiration vomitus, 24 from overwhelming doses of spinal, and 21 were due to caudal or continuous caudal anesthesia. In their series, aspiration vomitus appeared to be the most prominent cause of death. In the six year period surveyed at St. Agnes Hospital, we were fortunate in having no anesthetic deaths, though it is admitted that during this time there were a number of hazardous episodes resulting from inhalation anesthesia. This fact is attested to by the rapid fall in the incidence of inhalation anesthesia as shown by Table I.

In the literature there is contradictory evidence as to the dangers of spinal or saddle block anesthesia. Our experience is on the favorable side, and we are inclined to agree with such articles as those of Dripps and Vandam, and Andros and Priddle. Dripps and Vandam reported on 10,098 spinal anesthetics with long term follow-up of patients with no serious permanent sequelae. From the Chicago Lying-In Hospital, Andros and Priddle reported on 4700 cases of saddle block anesthesia without serious complications.

We do not mean to infer that there are no dangers associated with saddle block anesthesia. Indeed one cannot overlook the articles of Kennedy, Effron and Perry, or Rosenbaum, Long, Hinchey, and Trufant. The latter reported on 1272 patients with saddle block anesthesia, from which group six developed chronic adhesive arachnoiditis with paralysis. Most of their cases developed symptoms quite some time following the anesthetic, which lead them to believe that the association between the anesthetic and paralysis was most frequently missed, thus accounting for the dearth of such reports in the literature. Kennedy, Effron and Perry in a very comprehensive review of the literature on spinal anesthesia arrived at the following conclusions. The anesthetic agent causes a neuroltoxicity which is manifested primarily at the site of injection due to the greater concentration at that point. The resulting neurological lesions were chiefly meningeal irritation, chronic adhesive arachnoiditis with paralysis, peripheral degeneration of the myelin sheath of the spinal cord, and swelling of the ganglion cells. They concluded by adding to the literature twelve cases admitted to Bellevue Hospital because of grave paralysis following spinal anesthesia. Both Kennedy and Rosenbaum advise against the use of spinal anesthesia where local or general anesthesia can be used.

Indeed, it is hard to explain the high incidence

of paralysis as given above, though it has been stated by others that such a complication is not rare and is readily found by those who seek for it. We have for some time been deeply interested in this condition and through the courtesy and interest of one of the neurosurgeons in Baltimore, the majority of other leading neurosurgeons of the city were contacted in regard to this problem. None could recall a case of permanent paralysis following saddle block anesthesia that was treated in this city in the last five or six years. Since in the cases of Rosenbaum the diagnosis of chronic adhesive arachnoiditis was made in all but one case, only after neurosurgery, we feel safe in assuming that if such a case occurred in Baltimore, one of these surgeons should certainly have been called in consultation. Furthermore, of the sixteen hospitals in Baltimore, it is common knowledge that saddle block anesthesia has been widely used by most in the past four or five years. This to us would indicate that chronic adhesive arachnoiditis with paralysis following saddle block anesthesia is a rather rare entity.

Finally through querying our colleagues and acquaintances we were told of two serious complications of saddle block anesthesia occurring in Baltimore City in the past five years, though one resulting in death caused considerable discussion. This was a normal patient who had a sudden drop in B.P. following the saddle block anesthesia. Several days later she became mentally disoriented and died about one week post partum with a diagnosis of lateral sinus thrombosis. Though many felt this was a direct result of the anesthetic others questioned this taking refuge in the fact that no autopsy could be obtained from the family. The other was a patient who at a subsequent delivery was found to have a paralysis of both lower extremities. Investigation revealed a transverse myelitis. She stated that the paralysis came on within a week or two following her last delivery.

As concluding evidence of the seriousness of the problem of anesthesia in obstetrics we felt it would be of interest to cite the experience of the Baltimore City Maternal Mortality Committee along this line for the past five years, December 31, 1949 to January 1, 1955. During this time there were 113,135 resident deliveries in the city with five maternal deaths due to anesthesia. Two were due to aspiration vomitus following G.O.E. anesthetic. One death resulted from improper administration of sodium pentothal nitrous oxide anesthesia. A fourth patient died with convulsions immediately following the injection of 35 cc. of novocaine as a pudendal block. The fifth death resulted from cardiac arrest following the administration of 5 mgms. of pontocaine as a spinal anesthetic for a Cesarean section.

It is our hope that saddle block anesthesia will not be condemned too soon and certainly not until a far more extensive study and investigation of the subject has been made. Our experience has certainly proved it to be a safe anesthetic for both mother and baby; a satisfactory anesthetic for both mother and physician and above all an anesthetic, the administration of which is simple and can quickly and easily be taught to the house staff as our study indicates. We believe that if our opinion about the rarity of serious sequelae from saddle block anesthesia is correct, then a wider use of the anesthetic may tend further to lower the incidence of maternal mortality.

We urge however that all serious sequelae be reported not only in the literature, but also to the physician and hospital where the patient received the saddle block. We believe that by not doing so, one is performing a disfavor not only to the patients but also to the medical profession as a whole. It is our sincere hope that surveys of saddle block anesthesia encompassing entire communities, rather than of scattered clinics or case reports be made in detail. Only in this way will we obtain valid statistical information on an extremely important problem. It is our hope that this paper is a preliminary

study to a more comprehensive review of the subject.

Conclusions

1—Maternal deaths from anesthesia play a prominent part in maternal mortality. The greatest factor here is aspiration vomitus.

2—There is great need for an anesthetic that is safe for the baby and mother. An anesthetic that gives relief to the mother while relaxing her for the physician and may be given with but little preparation of the patient. Also, there is need for an anesthetic that the untrained anesthetist (e.g. the house officer), can safely and quickly be taught to administer.

3—We believe that paralysis from saddle block anesthesia is rare, and that until better obstetrical anesthesia is offered it is far safer than inhalation and more satisfactory than local anesthesia.

Summary

1. A survey of 5250 patients with saddle block anesthesia with no serious permanent sequelae is reviewed.

2. There were eighteen patients or 1.6% having a transient hypotension following the anesthetic.

3. There were fifty-two patients or 4.6% exhibiting post spinal headache.

4. There were no respiratory complications.

5. There was no maternal mortality due to saddle block anesthesia in this series.

6. There were no neurological complications attributable to the anesthesia, in our series at St. Agnes Hospital.

7. Through queries of our colleagues we were able to learn of only two possible neurological complications following saddle block anesthesia throughout Baltimore in the past five years.

112 Elmhurst Road
Baltimore 10, Maryland
(*Dr. Seegar*)
St. Luke's Hospital
Spokane 11, Washington
(*Dr. Devlin*)

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POSTOPERATIVE SUPPURATIVE PAROTITIS

JOHN P. WHITE, 3rd, M.D.*

Postoperative suppurative parotitis is an uncommon condition affecting one or both of the parotid salivary glands. It needs to be distinguished from epidemic parotitis or mumps. Older articles on the subject attempted to identify a close relationship to epidemic parotitis by stating that its incidence is highest following operations of the genital tract. More accurate and more recent reports show that it occurs seventeen times more frequently in operations on the rectum and colon than all other operative procedures.[9] At the Mayo clinic it was found to occur in twenty cases out of 2700 operations on the rectum and colon. The general incidence

* Resident in Surgery, St. Agnes Hospital.

reportedly varies from 0.04 to 0.07%.[4] It is a serious complication usually coming on after a debilitating illness and may carry a mortality rate as high as 60%.[4]

Curveilhier described the disease in 1836 and 1842 and stated that the infection ascends from the mouth and finally reaches the terminal canaliculi and acini of the parotid gland and then invades the cellular tissues.[5] Virchow described the condition in 1858.[6] Benjamin Brodie in 1834 discussed the gross pathological picture of acute suppurative parotitis. Rindfleisch in 1878 described the larger ducts as being distended with pus, and Heinecke in 1913 concluded that with few exceptions the infection probably occurred as an ascending infection through the ducts.[6]

The parotids are the largest of the salivary glands. They secrete a watery saliva, low in mucin content.[5] The anatomy of the parotids is unusual in that a suppurative process may not appear fluctuant until very late although there has been extensive destruction of the parenchyma of the glands. This is attributed to the tight tough fibrous capsule that surrounds the glands.[5] Fluctuation may never be clinically apparent although the gland has gone on to complete destruction and gangrene. The infectious process may be so virulent that the gangrene may be complete in 24 hours. This sometimes is accompanied by permanent damage to the facial nerve. The cultures at this stage are frequently sterile.

Parotitis is unusual in many respects. While it most often is a complication of major procedures it may accompany a medical condition. Coughlin reported twenty-four cases resulting from such conditions as pneumonia, diabetes, cardiovascular disease with hypertension, nephritis, and many others. The general incidence in his series is one in 2000 cases, 85% of which occurred in surgical patients.[5] While cases have been reported, it rarely occurs in obstetrics and the newborn.[6] The age incidence varies from 7–84 years.[1] All but two of Altemeir's cases occurred in debilitated patients. Bilateral cases carry the highest mortality.[9] Rankin reported 16 bilateral cases with 9 deaths (56%), and 33 unilateral cases with 12 deaths (36%). Although many feel that anesthesia plays a significant role in the development of postoperative parotitis, it may occur in patients who have had no anesthesia and it occurred in 12 patients in Coughlin series who had had spinal anesthesia.

Case Report

M.L.[3] This 67 year old obese white female was admitted to St. Agnes Hospital, October 26, 1954, with a chief complaint of yellowing of the skin and itching. Eighteen months before admission the patient had been operated upon at another hospital at which time her gallbladder was removed. She got along well until three weeks before this admission at which time she noticed her urine becoming dark and the stools grayish-white. She had occasional episodes of sweats and chills. Several days preceding admission the patient noticed that her urine was lighter and the stools darker. Her appetite had been poor and she had lost 14 lbs. She had experienced some vague mild right upper quadrant pain. Physical examination on admission showed a chronically ill jaundiced female. The oral hygiene was very poor and there were many carious teeth. There was a grade two aortic systolic murmur. The abdomen was protuberant and tender in the right upper quadrant. The liver edge was palpable at the right costal margin. There was a well healed right subcostal incision. The remainder of the physical examination was essentially noncontributory. The laboratory data on admission showed a hemoglobin of 91% (14.2 grams), leukocytes 7450, the urine was acid with a specific gravity of 1.010, and the microscopic showed an occasional leukocyte and many epithelial cells and was positive for bile. The Van den Bergh was prompt direct positive with a direct of 9.7 mgm. and an indirect of 1.5 mg. The icteric index was 58 units. The prothrombin time was 15 seconds, as was the control. Total proteins were 7.2 grams; 3.4 grams albumin, and 3.8 grams of globulin (A/G 0.9). The blood urea was 24 mgm.%, Sugar 153 mgm.%, and alkaline phosphatase 7.8 units.

The patient was treated with a high carbohydrate diet and bed rest. An intravenous cholangiogram was performed on the fourth hospital day, but failed to adequately visualize the biliary tree. A flat plate of the abdomen was of no help. Plans were made to explore the common bile duct on the 10th hospital day. However on the afternoon of the 9th day the patient began com-

plaining of marked right upper quadrant discomfort and her temperature rose to 102°. Examination at this time revealed the upper abdomen to be exquisitely tender and slightly distended. She was treated for an ascending cholangitis with Wagensteen suction through a Levine tube, and given I. V. fluids and penicillin. The serum amylase the following morning was 210 units. Her temperature and pulse subsided rapidly and on the 18th hospital day an exploratory laparotomy was undertaken under endotracheal anesthesia. The intubation was difficult because of the stature of the patient. During intubation the undersurface of the tongue was lacerated slightly and a front tooth was partially dislodged. The common duct was found to be obstructed and dilated from chronic pancreatitis. A T-tube was placed in the dilated common duct and a liver biopsy was taken. Pathologic study of the biopsy showed cirrhosis, obstructive type and fatty degeneration.

Postoperatively the patient did well but complained constantly of pain and took fluids poorly. On the 5th postoperative day she complained of swelling and pain in the right side of the neck and face. The right parotid gland was twice the size of the left which also was somewhat swollen and tender. The ampullae of Stenson's ducts were not enlarged and did not drain pus on pressure over the parotid glands.

Again the poor oral hygiene of the patient was noted. She was started on terramycin and intravenous fluids and encouraged to take fluids by mouth. The temperature was 99.6°. The following day 100 R of deep x-ray was administered to each parotid gland, and cold compresses gave the patient symptomatic relief. The x-ray dosage was repeated the following day. The swelling persisted in both glands and continuous administration of narcotics was necessary for the relief of pain. The right gland subsided on the 4th day after roentgen therapy and concomitantly the left gland continued to swell. The left side became fluctuant, and was incised and drained. Under local anesthesia a linear incision was made just in front of the ear down through the capsule of the parotid gland. Twenty cubic centimeters of thick grayish-white pus and some blood were removed. Cultures showed staphylococcus aureus. At this time the patient's hemoglobin was 101% (15.7 grams) and the leukocytes were reported as 59,400. The patient's general condition rapidly deteriorated and she died on the 18th postoperative day.

Autopsy revealed bilateral acute parotitis, with abscess formation on the left, and acute and chronic interstitial pancreatitis. There was associated arteriosclerosis and fatty degeneration of the liver with early cirrhosis.

This case clearly illustrates many of the typical features of a postoperative parotitis. The patient was past middle age and ill with a protracted and debilitating illness. The oral hygiene was poor. The anesthesia was difficult and organisms were probably stirred up in the mouth, by partially dislodging a tooth.

Postoperatively the patient had a very poor fluid intake, breathed through the mouth much of the time, and maintained a dry dirty oral cavity. The infection was unilateral at first but quickly spread to the other side. She responded not at all to antibiotics although the organism was a common offender, hemolytic staphylococcus aureus. The gland on the left was not clinically fluctuant until late in the course of the disease although extensive destruction of the parenchyma was evident at the time of the incision and drainage. The ampullae of Stenson's ducts appeared normal. Finally, her death could not be attributed directly to the parotitis, but the parotitis was most certainly a major contributing factor.

Cases reported in the literature are usually associated with poor oral hygiene and a dry mouth. The routes of infection are: 1) lymphatics, 2) hematogenous, 3) ascending through the parotid duct, 4) direct extension.[5] There are two cases in the literature in which the anatomic findings would suggest a hematogenous infection.[6] In one the parotid veins and veins in the neck were filled with pus. Rost claimed the evidence was questionable. In 1914 he showed that the injection of organisms into the artery supplying the parotid gland resulted in pus filling the ducts.[6] No suppurative thrombosis or embolism occurred. He claimed that there was no difference in the anatomic picture between the mode of infection. Custer claimed the ductogenous and hematogenous infections present a different picture.[6] Berndt et al. state that the anatomic and bacteriologic findings support a ductogenous route of infection.[2] They cite the early involvement of the larger ducts which then extend to the smaller radicals and secondarily involving the periductal tissue and finally leading to abscess formation. They showed in dogs that all but one of glands injected through the duct with organisms showed marked suppuration. However two out of eleven dogs in which the organisms were injected into the superficial temporal arterial supply to the gland re-

sulted in recognized inflammation. Hall pointed out that manipulation around the gland does not apparently cause parotitis since it is rarely seen after thyroidectomy.[7]

Dryness of the mouth may be the first symptom. The diagnosis is usually clear cut and swelling appears early. Examination of the mouth shows that the papilla of Stenson's duct is sometimes swollen and the surrounding mucous membrane is reddened. Occasionally pressure over the affected gland will cause pus to be expressed from the duct. The patient is extremely toxic and complains of marked pain in the area of the swelling. There is a rise in temperature. Facial palsy may rarely be a presenting symptom.[8] Coughlin et al. reported that the condition is bilateral in 32.1% of the cases. Swelling of one side may actually obscure the swelling of the opposite side. In some cases the swelling may extend into the neck and into the submaxillary glands. The extension of the process to involve the other salivary glands is a serious prognostic sign. The leukocytosis may vary from fourteen to forty-three thousand, and rarely a leukopenia may be observed. It is well to bear in mind that recurrent swelling of the salivary glands may be on a familial basis.[10]

In many cases, cultures of the salivary secretions and ducts are sterile. Not infrequently culture of the gland at the time of incision and drainage is sterile. Altemeir reported forty-nine cases, twenty-three of which were monobacterial and fourteen were polybacterial. Clifford reported six of ten cases in his series were mixed infections.[4] While the usual offending organism is a hemolytic staphylococcus aureus occasionally streptococcal infections are seen and rarely Vincent's organism. Pneumococci normally found in the mouth flora may be the predominant organism. Coughlin reported one only positive culture in fifty-seven cases.

Prophylaxis is still considered the best mode of treatment. Decayed and carious teeth should be repaired before major surgery is undertaken. The patient must take adequate fluids. The general resistance should be built up with supportative measures including whole blood and vitamins. The salivary flow should be stimulated by the use of candy and chewing gum. After the condition has established itself the best treatment is irradiation. This may be administered either by x-ray or radium. Antibiotics are usually administered concomitantly. Penicillin seems to combat the usual offending organism best. Bowing et al. showed a direct relationship between the mortality and the interval of time between the diagnosis of parotitis and the application of radium.[3] Rankin has advised administering from eight hundred to six thousand milligram hours of radium. There usually will be no apparent change in the symptoms from twenty-four to thirty-six hours and then usually rapid improvement. Of twenty cases that Rankin et al. treated with radium only two needed incision and drainage. They reasoned that radium reduced the suppuration and hence the mortality. Hall advocated x-ray and emphasized that superficial therapy worked as well as deep. He emphasized that at least forty-eight hours must be allowed for therapeutic effectiveness.

Altemeir recommended large doses of Lugol's solution daily until improvement occurs.[1] He gave from 120–150 minims daily. Lugol's Solution is thought to be bacteriostatic and to stimulate defensive measures against the infection. Clifford pointed out that with irradiation therapy the symptoms may be worse for a day or so and then improvement begins. He preferred x-ray because it is less expensive than radium and it is much more conveniently administered.[4] Rankin reported at the Mayo clinic 58 cases not treated with radiation with 23 deaths. He reported surgical drainage in 24 cases with 14 deaths (50%). Of twenty cases at the Mayo clinic treated with radiation only 2 needed incision and drainage and only four died. Rankin calculated the mortality with radiation at about 5%. The mechanism of action of x-ray and radium is poorly understood. It is known that

lymphocytes destroy and Desjardens believed that valuable protective antibodies are released.[9] Local therapy is of little avail. Hot wet packs are helpful after incision and drainage.

The mortality in this condition varies from 19 to 60%.[3] The bilaterally affected glands carry a higher mortality but are not necessarily fatal. Most authors agree that fatal cases are almost always due to other pathological processes within the body. Madding et al. feel that usually the parotitis is only a contributing factor, and that the mortality has been overemphasized.[8] In a review of 190 cases they found only one death directly attributable to parotitis (less than 1%). Should the infectious process lead to gangrene of the gland, a fatality usually results. The morbidity from incision and drainage is high with frequent damage to the facial nerve and prolonged convalescence.

Conclusions

Parotitis is a rare but serious complication. It is best handled by prophylactic steps directed toward its prevention. Once it has developed, X-ray or radium therapy in conjunction with antibiotics is the treatment of choice. Surgical drainage is helpful in many cases. Because of the tight capsule which surrounds the parotid gland, fluctuation usually presents late in the process. Some advocate unroofing of the gland because of the nature of the capsule, emphasizing that conventional incision and drainage may not be complete enough to eradicate the infection.

Summary

1. A fatal case of bilateral parotitis following a major surgical procedure is presented.

2. The case was treated with X-ray in conjunction with antibiotics. Subsequently incision and drainage was performed.

3. The etiology, treatment, morbidity and mortality of parotitis is discussed.

St. Agnes Hospital
Baltimore 29, Maryland

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POISON CONTROL CENTERS*

MARYLAND CHAPTER—AMERICAN ACADEMY OF PEDIATRICS

The American Academy of Pediatrics through its Accident Prevention Committee has been stimulating the development of Poison Control Centers in teaching hospitals throughout the country. The Maryland Chapter, through its Accident Prevention Committee and Poison Control Center Committee, is establishing two Poison Control Centers, one at Johns Hopkins Hospital and the other at University of Maryland Hospital. These centers have been established under the auspices of the Department of Pediatrics in the respective institutions. Dr. Samuel Bessman, Associate Professor of Pediatrics, will be in charge of the University of Maryland Hospital Center and Dr. Thomas E. Reichelderfer, Instructor of Pediatrics, will be in charge of The Johns Hopkins Hospital Center. The Poison Control Committee of the American Academy of Pediatrics has formulated plans for the establishment and methods of functioning of these Centers. This committee will be happy to supply information to any other hospital within the State which desires to establish a similar program. The committee is at all times available to such a unit for consultation. A set of reference texts, pamphlets, and reprints pertinent to poisons has been made available to each Center by the committee. The technical consultation is readily available through the assistance of Henry C. Freimuth, Ph.D., John Krantz, M.D., and Gilbert H. Mudge, M.D.

The Home Accident Prevention Unit of the Maryland State Department of Health has agreed to tabulate statistical data on poisonings, and from time to time, when a particular poison seems to become prominent, issue communications to physicians and lay groups. When new poisons are encountered, it will with the assistance of the Poison Control Center and consultants, provide the latest information available on these substances.

The Poison Control Officer in each hospital will maintain a standard list of equipment and antidotes for emergency use, plus authoritative reference material on poisons. Any physician may telephone for information. *Such calls should be made either to University Hospital (LExington 9-0320) or to Johns Hopkins Hospital (ORleans 5-5500) and ask for "Poison Control Center."* When indicated the case may be brought into the Center for treatment. The University Center is located in the University Hospital, Wing 5-D. The one at Johns Hopkins Hospital is set up in the Department of Pediatrics.

A brief form summarizing the results will be filed at the Center for follow-up and for determination of the most effective treatment and antidotes. A double post card will be mailed to the referring physician to determine the outcome of treatment. This data will then be sent to the Home Accident Prevention Unit for summation and analysis. The Poison Control Officer will be responsible for teaching all medical students, house staff, nurses, and others involved, especially those persons answering the calls at the Poison Control Center.

During the past few years in several parts of the country a number of physicians, public health workers and others closely associated with problems of poisoning, particularly in children, have become interested in ways and means of controlling accidental poisoning. However, it was not until 1950 when the American Academy of

* To be presented to the House of Delegates by Dr. Thomas A. Christensen.

Pediatrics Committee on Accident Prevention made a survey of the nature of accidents treated by pediatricians that nation-wide attention was focused on the problem of accidental poisoning in children. The pediatricians responding to the survey indicated that fully half of the patients they treated for accidents resulted from poisoning by household substances.

The study and control of these accidents became an important part of the program of the committee. In order to work out the best methods of handling this problem a pilot project was begun in Chicago under the auspices of the Illinois Chapter of the American Academy of Pediatrics. The project was established as a poison control Center, involving the cooperation of the heads of pediatric service in the major hospitals, the Health Department, State Toxicological Laboratory and other state and local agencies. The Chicago Center which began operating in November of 1953 included information, treatment and prevention in its objectives and procedures and was the first of its type in the country. Using a looseleaf outline guide for the treatment of poisoning developed by Dr. Edward Press who was chairman of the Chicago Center at the time and with the support and through the framework of the Accident Prevention Committee of the Academy of Pediatrics several other cities throughout the country developed similar poisoning control centers. By the spring of 1955 there were centers in actual operation or in advanced stages of development in at least 11 cities in the United States. Each of these centers was organized and operated on an individual basis with its organizational pattern and procedures adapted to fit the local situation. However, all of them were loosely related to the Subcommittee on Poisoning of the Academy's Prevention Committee.

The institutions and individuals cooperating to provide this important service in Maryland are listed below. All physicians are cordially invited to make maximum use of the services of these centers.

MARYLAND CHAPTER AMERICAN ACADEMY OF PEDIATRICS

University of Maryland Hospital
Poison Control Center (24 hour service)
Telephone: LExington 9-0320

Department of Pediatrics

Samuel Bessman, M.D., Associate Professor of Pediatrics, Poison Control Coordinator

Johns Hopkins Hospital—Poison Control Center
Telephone: ORleans 5-5500 (24 hour service)

Department of Pediatrics

Thomas E. Reichelderfer, M.D., Instructor of Pediatrics, Poison Control Coordinator

Accident Prevention Committee

Poison Control Center Committee

John A. Askin, M.D., Chairman
Samuel Bessman, M.D.
Thomas A. Christensen, M.D.
Edward Davens, M.D.
Thomas E. Reichelderfer, M.D.

Consultants to Committee

Henry C. Freimuth, Ph.D., Toxicologist, Maryland Dept. of Post Mortem Examiners
John Krantz, M.D., Professor of Pharmacology, Univ. of Maryland, School of Medicine
Gilbert H. Mudge, M.D., Professor of Pharmacology, Johns Hop. Univ. School of Medicine

Home Accident Prevention Unit

Maryland State Department of Health; Mr. J. Charles Judge, Chief

Component Medical Societies

ALLEGANY-GARRETT COUNTY MEDICAL SOCIETY

LESLIE E. DAUGHERTY, M.D.

Journal Representative

Medical Exhibition

Allegany Historical Society

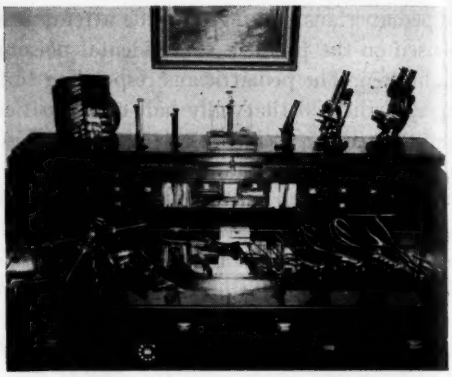
Allegany medicine is now represented in the Historical Society of Allegany County. April 10–15 was exhibition week. A partial display and part of the permanent collection of instruments, X-rays, microscopes, stethoscopes, books, pamphlets and photographs were shown.

One complete room will be set aside in the Historical Building, at 218 Washington Street, in Cumberland and will house medical lore from early revolutionary times through the present into the future.

The first X-ray was brought to Cumberland, in 1903, by Dr. Christopher Jacobs and the X-ray tube is now on display, as well as the First Edition of Osler's Practice of Medicine.

No longer should medicine lag in keeping before the public a consciousness of the part played by the medical pioneers. And pioneers they were, because often times they were not only the physician, but the family adviser, and occasionally the banker as well. He was the trusted confidant in all problems, present at births, weddings and made arrangements when all but hope was lost.

Dr. Leslie E. Daugherty explaining the exhibit to a Cumberland citizen. Shown are the first X-ray tube, and 100 year old saddle bags and photos of Dr. and Mrs. Charles H. Ohr. Dr. Ohr was president of the Medical and Chirurgical Faculty, in 1873–1874.



"Experience is Fallacious and Judgment Difficult"
Hippocrates: Aphorisms, 1.

Comparative instruments, the earliest microscope used in Allegany County—1894; 1st X-ray tube—1903, Laennec stethoscope and 18th century obstetric forceps, on display at the Allegany Historical Society Home, Cumberland, Maryland.

Fortunately, there is a revival of this friendly spirit and today, there is a return to the family physician, better known now as a general practitioner. Perhaps, eighty-five per cent of sickness can be well cared for by the family doctor, now that hospitals and consultants in all the specialities are more abundant.

Saddle bags with thirty bottles of medicines, only four of which are now in use today, are displayed.

The public needs to know how we practice and why we practice the way we do. Medical information is almost never misinformation, if coming from the County Society.

A well informed public is a sympathetic public. Health is the most sought after commodity, not withstanding high-powered automobiles and other luxuries.

Baltimore Specialist Speaks Before Allegany-Garrett County Medical Society

Dr. John Tilden Howard, professor of gastroenterology at Johns Hopkins University, Baltimore, Maryland, gave an illustrated talk to the Allegany-Garrett County Medical Society, on March 23. The

meeting was held at the Fort Cumberland Hotel, in Cumberland.

His subject was Diseases of the Esophagus, with particular emphasis on diaphragmatic hernias.

Dr. Howard follows a long line of distinguished physicians, who have addressed the Society in the past. Notably among those, have been; Sir William Osler, Charles and William Mayo, Dr. George H. Yeager and Dr. John M. T. Finney.

Personals

Dr. Thomas Robinson, of Cumberland, Maryland, is now convalescing from an appendectomy.

Dr. William Oliver McLane, Frostburg, Maryland, was appointed by the president, to study and report the working plan of the State Fund, for Doctors' dependents.

BALTIMORE CITY MEDICAL SOCIETY

CONRAD ACTON, M.D.

Journal Representative

The Executive Board at its regular meeting Tuesday, 27 March, reviewed eligibility of Emeritus Members for our group health and accident insurance. The insurance requirements that participants must be *under* age seventy and in *active* practice to qualify for insurance, seemed to the Board to exclude emeritus members. Along insurance lines also, The Commercial Casualty Insurance Company, our carrier, informed the Treasurer that it was unwilling to extend its coverage from five to ten years, as some other group carriers have done, on payment of additional premium.

Application of a Homeopathic Board licencee for recognition and membership in the Baltimore City Medical Society was rejected. The State Board of Medical Examiners advised the Executive Board that the applicant's qualifications did not meet the requirements for medical licensure in this State.

Dr. Whitmer B. Firor, Chairman of the Committee to Advise Hospitals, was directed to notify Hospital Administrators in the City that his committee exists and is available in advisory capacity if legal action is threatened for malpractice regarding any members of their resident staffs. A distinction is to be made between misconduct and malpractice, however.

The Board went on record firmly as opposed to reimbursing Committee Chairmen, or individual members, for *unauthorized* expenditures of funds in committee projects. Money for postage, stationery, or other elements of committee work must be authorized by the Board *before* it is spent. The Board is lenient in sanctioning Committee needs, but feels that if various committees should spend money and later be reimbursed by the Society, there would be no place to draw the line. Consequently there could be no control of budget or outlay.

A Special Meeting was held Friday, 6 April to hear Congressman James P. S. Devereux talk on "Pending Legislation of Interest to the Practicing Physician," sponsored by the Executive Board. The Meeting was on our regular 'first Friday' and had many out-of-towners in the audience. Dr. Robert A. Bier of Montgomery County, was the official Society guest for the meeting.

The speaker was ably introduced by ex-President Amos Koontz as a legislator who had considerable background in military affairs and interest in things medical. Both personally as a Marine Corps general officer, the hero of Wake Island, and congressionally as a member of the Armed Forces Committee of the House of Representatives.

Congressman Devereux told in some detail, but general terms, of hearings held prior to passage of the Doctor Draft Law and its extensions. A.M.A. proofs and statements were given great weight. He stated it was the most discriminatory legislation ever passed. His point of view, naturally, was that of a procurement official and his statements, in the main, applied equally to all professional or career soldiers. He discussed the attempts that are being made to make the career-officer field attractive once again, with some particulars about medical officers. He did not speak of the administration of these statutes and the unnecessary hardships they so often cause as they now stand, to the career-physician standing on the threshold of a clinical career.

Mr. Devereux told in part of H.R. 9429 "which directs the Secretary of Defense to enter into a medical service, group health, or insurance plan authorizing hospitalization of dependents of active duty personnel in civilian facilities." This, right on the heels of the V.A. plan exposed by Dr. Goldsborough at the previous meeting, seems to bring 'backdoor' socialization of the practice of medicine ever closer.

BALTIMORE COUNTY MEDICAL ASSOCIATION

DONALD L. SOMERVILLE, M.D.
Journal Representative

We are happy to announce the recent acceptance to our membership of several new men: Drs. Elmer R. Hodil and Jack Collins are beginning with the BCMA; transferring from Baltimore City are Drs. Robert E. Ensor, Nathan E. Nachlas, and Eugene O. Goldstein; from Montgomery County, Dr. Valcoulon L. Ellicott; and as associate member, Dr. H. Patterson Mack.

The Association's February meeting was held at Lan-Lea Gardens, near Towson, and the general impression was one of a meeting of a gourmets' society rather than of a medical association, for the meal had the proportions and variety seen at prize banquets. We are looking forward to future meetings there, and trust the attendance will overflow into adjoining rooms. No less attractive, however, was the scientific program, presented by Dr. Henry J. Marriott, Associate Professor of Medicine at the University of Maryland. His subject was "The Heart in Pregnancy," and the members were treated to a very cogent and concise review of the topic. Dr. J. Morris Reese, Associate Professor of Obstetrics and Gynecology at the University, enlarged on certain vital points following Dr. Marriott's talk.

Business-wise, it should be mentioned that final preparations have been made, under the guidance of Dr. Clewell Howell, for the newly revised BCMA Medical Directory, which proved so very helpful to the citizens of the County in its first edition two years ago. Also, a letter from the Welcome Wagon was read, presenting the plea from Dundalk for an Emergency Medical Service there similar to the efficient setup in Pikesville and other locales. Action along these lines is under way.

On February 26 the Board of Governors had its first meeting, to consider in detail many important subjects for future presentation to the general Association membership in a more condensed and precise condition, thus saving much time at regular meetings. The proposed Dundalk Hospital was uppermost in the Board's thoughts and was carefully considered, all those concerned being particularly insistent on quality of medical staffing in such an institution, with privileges for the General Practitioner, of course, who makes up the great majority of physicians practicing in the County. Since other hospital plans are in the offing it is considered most important that this pilot study be worked out with integrity and skill. Dr. Herbert Morrison, a member of the Federation of Civic Associations of Baltimore County, guided the discussion on this topic.

In March the Association met at Mount Wilson State Hospital. Dr. William Newcomer of that institution presented several cases of formerly advanced cavitary tuberculosis in whom it was stressed recovery was possible only with time-honored surgical procedures supplementing chemotherapy. Drug therapy of tuberculosis in general was gone into in some detail, and the result was an excellent survey of the most up-to-date methods of treatment, their effectiveness, limitations, and drawbacks.

Dr. Charles Williams reported on the great success of the Association's recent Dinner Dance held by the Woman's Auxiliary.

An appeal to contribute regularly and generously to the American Foundation for Medical Education was made by Dr. Elizabeth Sherrill, who had attended the recent meeting in Baltimore on this vital program. It is worth reiterating here that all medical schools must have funds over and above tuition and endowments in order to carry on appropriately. A drive for funds is planned for May.

FREDERICK COUNTY MEDICAL SOCIETY

LOUIS R. SCHOOLMAN, M.D.
Journal Representative

The regular meeting was held at the Frederick Hotel March 20. The speaker of the evening was Doctor Robert Buxton, Professor of Surgery and head of the Department of Surgery at the University of Maryland Medical School. He gave a very interesting paper on portal hypertension.

The gathering was saddened by the death of Dr. Charles H. Conley early that morning. Dr. Conley had practiced here fifty-six years and was liked and respected by all. The society made a contribution in his memory to the permanent endowment of the hospital.

Hospital Events

Two cases were discussed at the March meeting of the Staff. The first, by Doctors Martin and Pilgram, was a peptic ulcer of the oesophagus. The second by Dr. J. B. Thomas was a case of polycystic kidneys complicated by acute purulent pericarditis.

The medical and obstetrical departments held a joint meeting. Dr. B. O. Thomas, Jr. spoke on the diabetic control in pregnancy and Dr. J. B. Thomas on the complications in pregnancy caused by diabetes.

The case at the monthly Clinical-Pathologic Conference was Constrictive Pericarditis in a seventy-four year old male. Dr. Furie followed with a discussion of this disease.

ROUNDUP OF THE WEEK'S CONGRESSIONAL ACTIVITY

The AMA Washington Letter, No. 84-65

Cash Payments for Disability. With the testimony of Secretary Folsom, The Senate Finance Committee has formally closed its hearings on House-passed H. R. 7225, which carries the section giving pensions to disabled at age 50.

Commissioning of Osteopaths. The House-passed bill (H.R. 483) would authorize commissioning of osteopaths in the military medical corps. Its highly controversial nature was brought to the attention of the full Senate Armed Services Committee when, on the insistence of Senator Margaret Chase Smith (R., Me.) of the subcommittee, the three surgeons general were called in to testify. They vigorously opposed the bill, although it was supported earlier by Dr. Frank Berry, Assistant Defense Secretary for health and medical matters, and his deputy, Dr. Edward H. Cushing. The full committee has deferred action on the bill pending an explanation of the conflict of views within the Defense Department. Those who feel, like the surgeons general and the AMA, that osteopaths should not be commissioned, are urged to write to Chairman Richard Russell, Senate Armed Services Committee.

The House Commerce Committee plans an executive session March 27 to consider S. 2587, authorizing military status for the PHS commissioned corps in time of national emergency. . . . Hearings are tentatively set for early April by the Senate Armed Services Committee on H.R. 9428, to make military medical careers more attractive. . . . Two representatives of the AMA, past President Walter B. Martin and Dr. Desmond S. O'Doherty of Georgetown Medical School, testify today before the House Veterans Affairs Committee on various proposals for extending presumption of service connection to additional diseases on the VA schedule. . . . In testifying on PHS civil defense plans Surgeon General Scheele had high praise for cooperation being received from the AMA.

Necrology*

Charles Edward Balfour, M.D.

1902–1956

Dr. Charles Edward Balfour, prominent Baltimore psychoanalyst, was born September 2, 1902 in Newark, New Jersey. The son of a Scottish engineer, Bal was a first generation American directly descended from Scottish nobility. His education began in the private schools of northern New Jersey. In 1926 a Bachelor of Arts degree was conferred upon him by Princeton University.

A short period of study in Heidelberg, Germany preceded his first visit to the city that was to become his home, Baltimore, Maryland where he entered The Johns Hopkins Medical School. His degree from that institution was received in 1931. After serving a rotating internship at the Union Memorial Hospital and spending additional years at the Shepherd Pratt Hospital, the private practice of psychiatry was begun.

In 1938, Bal married his beloved wife and constant companion, the former Jane Deborah Barratt. The wedding took place at Baltimore's lovely Church of the Redeemer on North Charles Street.

A bare history with names, places, and dates does not do this man justice. He will be remembered for far more than these. Bal was many things to many people. To his many patients, he was friend, counsellor, and a pillar of strength to whom they could turn day or night, a great rock in the tumultuous seas of life. His professional zeal, generosity, and ability to re-establish in his patients a renewed zest and interest in life will never be forgotten. He remains a life memory among those who cherished his counsel.

To the people of the Chesapeake Bay country, especially those who man its boats and inhabit its small out of the way ports, Bal was a familiar figure. His trim and elaborate cutter standing into port with her white sails billowing was a familiar picture the length and breadth of our bay, for Bal was an accomplished master sailor with a great love for tidewater Maryland. He was a member of the Gibson Island Club, the Annapolis Yacht Club, the Patapscut Sailing Association, and the Chesapeake Bay Yacht Racing Association. No cruise sponsored by these organizations was complete without his ready wit and assisting hand.

To patrons of the arts, Bal was a familiar face at the opera, symphony, and wherever great music was to be heard.

Basically shy and quiet, those of us who knew him well were fond of his quick sense of humor, sense of fair play, and his ability to overcome a natural reticence when necessary to speak out against an injustice or to defend a matter of principle.

His son, Charles Edward Balfour III, can well be proud of his Dad and live secure in the memory that his father was a man who thought, said, and did what was right.

T. Edgie Russell, Jr., M.D.

Meyer Ephraim, M.D.

1896–1956

Dr. Meyer Ephraim was born in Russia August 10, 1896, and was brought to Baltimore during his early infancy. He was educated in the local public schools. Following the careers of his father and grandfather who were physicians, he enrolled in the University of Maryland School of Medicine and graduated in 1918. After a year's internship in the Hebrew Hospital (now known as Sinai) he married Miss Irene Horwitz of this City and entered into the practice of General Medicine. Because of his genial unostentatious personality he soon acquired many friends, in and out of the profession, and a rather lucrative practice. He was a member of the Baltimore City Medical Society, the Medical and Chirurgical Faculty and also of the American Medical Association. His non-professional interests were many. He was fond of all sports and appreciated good music and played violin for his own entertainment. He was a life-member of his Masonic Lodge, the St. John's, where he was very active. Dr. Ephraim was also an avid reader of all literature but was particularly interested, first, in Medicine, secondly in history. He died on December 24, 1955, of embolus following an

* Memoir Committee: A. S. Chalfant, M.D., *Chairman*, John F. Hogan, M.D. and Robert H. Riley, M.D.

intervertebral disc operation. He is survived by his widow, two married children and three grandchildren.

BENJAMIN KADER, M.D.

Kenneth D. Legge, M.D.

1895–1956

Dr. Kenneth D. Legge died in West Palm Beach, Florida on January 22, 1956 of coronary thrombosis. Dr. Legge was born in Shepardstown, West Virginia, February 22, 1895. His early education was acquired at the Randolph-Macon Academy, Front Royal, Virginia, and the Emerson Institute, Washington, D. C. Dr. Legge's medical training was started at George Washington University and he was graduated from the University of Maryland School of Medicine in 1917. Graduate work in Urology was done at the Johns Hopkins Hospital under Dr. Hugh Young. He served in the Medical Corps of the United States Navy for a period of seven years—resigning in 1924. On leaving the service he came to Baltimore and engaged in the practice of Urology.

Dr. Legge was a member of the Baltimore City Medical Society, the Medical and Chirurgical Faculty of Maryland, the American Medical Association, the Southern Medical Association, and the American Urological Association. He was actively engaged in teaching at the University of Maryland School of Medicine and attained the rank of Professor of Clinical Urology as well as serving as Urologist-in-Chief at the Mercy Hospital. He was a member of the Phi Kappa Sigma Fraternity, the Masonic Lodge and Boumi Temple of the Shrine.

Dr. Legge retired from active practice in 1952 because of his health.

Surviving Dr. Legge are his wife, the former Elise Crook Ashton of Baltimore, and brothers Fred F. Legge of New Jersey, and John A. Legge of California.

Dr. Legge was a most capable Urologist and his opinion was highly regarded by his colleagues. He was a man of high standards, humane, lovable and well-liked by all of his friends and patients. The medical profession and the citizens of Baltimore and Maryland have suffered a distinct loss in the death of Dr. Legge.

J. SHELDON EASTLAND, M.D.

AMA ASKS SENATE TO DELETE RESTRICTIVE PART OF DEPENDENT BILL

The AMA Washington Letter, No. 84-68

The American Medical Association, testifying April 13 on the House-approved bill (H.R. 9429) providing medical care for some 3 million military dependents, warned the Senate against a section of the bill that precludes free choice between civilian and military facilities. Dr. Woodruff Crawford, chairman of the AMA Committee on Maternal and Child Care, testified the section would have the effect of saying the serviceman's dependent could elect civilian care only when military facilities in his area were crowded or unavailable.

"We feel that such a restriction is not in the best interest of the serviceman or his dependents and is contrary to the American tradition of free choice of physicians," the witness declared at the final day of hearings by the Senate Armed Services Committee. Dr. David B. Allman, chairman of the AMA Committee on Legislation, explained that the Association is taking no stand on whether it's the responsibility of the government to provide such care.

Health Departments

BALTIMORE CITY HEALTH DEPARTMENT

Population Changes in the South

In an address entitled "Demographic Trends in the South—Implications for Public Health Administration" presented to the Southern Branch of the American Public Health Association on April 6 at Tulsa, Oklahoma, Dr. Matthew Tayback, Director of the Baltimore City Health Department's Statistical Section, stated that the future population growth of the South will take place in urban areas. He pointed out that the health problems of today's urban community are vastly different from those of several decades ago.

To a large extent the medical care needs of urban populations are adequately provided through the existing services of personal physicians and hospital centers. However, in many instances, facilities for diagnosis of cancer, detection of early emotional disorders in children and for the nursing care of homebound long-term illnesses are deficient. It is in these areas that the public health department will find it necessary to lend its aid in solving the unmet needs by appropriate planning and in some instances, by provision of services in cooperation with the established medical agencies.

In his paper, Dr. Tayback noted that there were certain characteristics that are common to urban culture wherever it may be geographically found in this country. The more important of these from the public health point of view are: (a) isolation of the family unit, (b) concentration of the population, density-wise, and (c) rigidity of the work situation for the laboring force.

As a result of the density patterns which develop in urban populations, undesirable and potentially harmful concentration of industrial wastes may occur in the atmosphere. In addition, the nature of construction for residential use, if not well controlled, invites the early development of substandard housing conditions and urban blight, the environmental disease of older urban communities. The health department whose jurisdiction includes growing urban areas may find it advisable to obtain recognition of these problems in local ordinances specifying hygienic standards for residential construction and for industrial operations.

The chief demographic trends which were emphasized were: (a) the significant urbanization of the South, (b) the slow but constant decline in the relative proportion of the Negro in the South, and (c) gradual elimination of the income differential between the South and the country as a whole.

Huntington Williams, M.D.

Commissioner of Health

BIRTH AND DEATH CERTIFICATION CHANGED IN MARYLAND COUNTIES*

A rather revolutionary change in the birth and death registration system is being put into effect in the counties of Maryland.

As physicians have doubtless noted, new certificate forms have been introduced which are in multi-copy, with interleaved carbons. The purposes of this change are threefold: (a) To promote economy; (b) To speed up operation; and (c) To provide more accurate copies.

In addition to the elimination of a vast amount of needless transcribing, sometimes as many as five copies, the use of the multi-copy certificate may eventually result in the elimination of the old system using local registrars. This may result in a saving of approximately $30,000 a year to county governments, an amount representing at least one-third of the total cost of the entire registration system.

The new forms have won widespread approval. As in all new procedures, there are some objections to change, but the physician may take satisfaction in the fact that the copies of his certifications are recorded more promptly and accurately, and that his patients under the new system receive prompter and more accurate service. In short, the new system will do a better job at a decidedly lower cost.

* This article was prepared for the JOURNAL by A. W. Hedrich, Sc.D., Chief of the Division of Vital Records and Statistics, and Mr. Bernard F. von Ahn, in charge of the Records Section of the Division.

Space is provided on the new certificate for printing the physician's name in addition to the space for his signature. This innovation reduces the risk that in large hospitals Physician A will complete and sign a certificate relating to a patient of Physician B. Formerly, through such clerical errors, infants have been certified as dying of senility; and in a recent case, a man was recorded as dying of cancer of the uterus. When the hospital types or prints in the name of the physician at the time the certificate is made out, risk of such confusion is practically eliminated.

For multi-copy certificates made out in hospitals, the bottom copy is to be left with the hospital. When the birth or death occurs at home, the physician may retain the bottom copy of the certificate for his personal files. The copies in the hospital and the county health office are, of course, always available to the physician for reference by telephone or otherwise.

Suggestions to the Certifying Physician

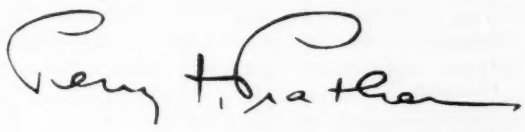
(a) *Please use ball point pen or typewriter.* Nowadays most of the ball point pens, including the 29¢ variety, employ permanent-type ink. Highly transparent, or washable inks should be avoided; otherwise, with the passage of time, the writing may completely vanish through oxidation.

(b) *To produce good copies, please place the certificate on a hard surface,* not on a blotter.

(c) *Please execute the cause-of-death certification as promptly as possible.* Under State law, the physician is responsible for the execution of the entire death certificate, and its delivery to the person in charge of the funeral within twenty-four hours. In practice, funeral directors usually find it expedient to obtain personal particulars from the family, thereby often saving the physician a trip. This is not the legal obligation of the funeral director and physicians are, therefore, urgently requested to provide cause-of-death information and sign the certificate as promptly as possible, always within twenty-four hours.

(d) *Make only one certificate* (or multi-copy assembly) of birth or death on the official form. The law specifically prohibits the execution of additional copies on the State form. The physician may, however, make certifications on his private stationery. The intent of this law is to avoid confusion between the physician's informal certification and the official State document, which is a permanent record, and which carries certain evidentiary privileges in courts and elsewhere. For example, the certified copy issued under the State Seal may be introduced as evidence in courts without the personal presence of either the physician or the State Registrar.

In conclusion, the State Department of Health expresses its deep appreciation for the great service rendered by physicians to the families involved, the hospitals, and to the many others who use the official records of birth and death as filed by him.



Director of Health

OFFICE OF CIVIL AVIATION MEDICINE PROPOSED

The AMA Washington Letter, No. 84-67

Chairman Priest of the House Interstate and Foreign Commerce Committee is proposing (H. R. 10228) that the Administrator of Civil Aeronautics be given authority over medical aspects of civil aviation, including pilot examinations and establishment of minimum human requirements in aircraft design. Presently these are the responsibility of the Civil Aeronautics Board. An Office of Civil Aviation Medicine would be set up within CAA, as well as research laboratory and a medical advisory committee. Mr. Priest said "neglect of civilian pilots . . . may perhaps be due in part to the false premise that civil aviation medical research and training needs are being provided for by military services."

STATE OF MARYLAND DEPARTMENT OF HEALTH

MONTHLY COMMUNICABLE DISEASE REPORT

Case Reports Received during 4-week Period, May 4–31, 1956

	CHICKENPOX	DIPHTHERIA	GERMAN MEASLES	HEPATITIS, INFECT.	MEASLES	MENINGITIS, MENINGOCOCCUS	MUMPS	POLIOMYELITIS, PARALYTIC	POLIOMYELITIS, NON-PARALYTIC	ROCKY MT. SPOTTED FEVER	STREP. SORE THROAT INCL. SCARLET FEVER	TYPHOID FEVER	UNDULANT FEVER	WHOOPING COUGH	TUBERCULOSIS, RESPIRATORY	SYPHILIS, PRIMARY AND SECONDARY	GONORRHEA	OTHER DISEASES	DEATHS: Influenza and pneumonia
Total 4 weeks																			
Local areas																			
Baltimore County	39	—	50	—	87	1	72	—	—	—	12	2	—	1	21	—	4	—	8
Anne Arundel	10	—	3	—	19	1	11	—	—	1	2	—	—	—	3	1	—	—	2
Howard	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Harford	3	—	2	—	12	—	9	—	—	—	1	1	—	—	4	—	—	—	—
Carroll	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Frederick	4	—	20	1	17	—	—	—	—	—	3	—	—	—	—	—	—	—	2
Washington	29	—	—	—	4	—	2	—	—	—	1	—	—	—	—	—	4	—	1
Allegany	2	—	—	—	14	—	2	—	—	—	3	—	—	1	2	—	—	—	1
Garrett	—	—	5	—	4	—	—	—	—	—	—	—	—	—	4	—	—	—	—
Montgomery	43	—	28	—	127	—	50	—	—	—	16	—	—	—	4	—	—	—	1
Prince George's	9	—	3	—	51	1	17	—	—	—	4	—	—	—	4	—	1	—	1
Calvert	—	—	—	—	—	—	—	—	—	1	1	—	—	—	1	—	—	—	1
Charles	1	—	—	—	3	—	3	—	—	—	—	—	—	—	—	—	2	—	—
Saint Mary's	14	—	3	—	53	—	1	—	—	—	2	—	—	—	2	—	—	—	—
Cecil	1	—	—	—	3	—	—	—	—	—	—	—	—	—	2	—	1	—	1
Kent	3	—	—	—	34	—	4	—	—	—	2	—	—	—	3	—	1	—	2
Queen Anne's	—	—	—	—	2	—	3	—	—	—	—	—	—	—	—	—	—	—	—
Caroline	4	—	2	—	7	—	—	—	—	—	6	—	—	—	—	—	6	—	—
Talbot	—	—	1	—	6	—	—	—	—	—	—	—	—	—	2	—	—	—	—
Dorchester	—	—	—	—	2	—	1	—	—	—	—	—	—	2	4	—	1	—	2
Wicomico	7	—	2	—	33	—	3	—	—	—	—	—	—	—	3	—	8	—	1
Worcester	2	—	—	—	8	—	3	—	—	—	—	—	—	—	3	—	—	—	—
Somerset	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	—	4	—	—
Total Counties	171	0	119	1	487	3	182	0	0	2	53	3	0	4	66	1	32		25
Baltimore City	145	0	156	2	216	0	215	0	0	0	44	0	0	2	105	21	488		13
State																			
May 4–31, 1956	316	0	275	3	703	3	397	0	0	2	97	3	0	6	171	22	520		38
Same period 1955	250	1	113	45	304	3	200	12	2	5	170	1	0	53	161	13	569		35
5-year median	428	1	133	40	820	4	296	2		2	168	2	2	27	217	13	524		37
Cumulative totals																			
State																			
Year 1956 to date	2119	0	788	55	8570	30	1915	1	0	2	567	6	0	74	928	133	2647		379
Same period 1955	1888	3	261	192	1117	17	1141	15	3	6	2022	3	0	197	855	70	2921		330
5-year median	2685	10	532	219	4270	41	1477	10		3	1211	10	9	199	1053	92	2288		342

Blue Cross - Blue Shield

BLUE CROSS IS REASONABLE

R. H. DABNEY*

When we say that more than ninety cents out of every subscription dollar goes to provide hospital care benefits, we simply testify that the Blue Cross dollar is hard at work. That's a tremendous return on the subscriber's dollar. And when we multiply it out, we find that in 1955 the Maryland Blue Cross Plan paid almost $15 million in benefits.

There is no question that Blue Cross membership, dollarwise, is reasonable. But the financial reports and statistical summaries, important as they are, do not tell the whole story. They do not completely justify the widespread acceptance Blue Cross has today, or why this non-profit, community program has endured so long and so well. The answer, at least in part, lies in the reasonable approach to the subscribers in terms of services—no less important really than the actual hospital benefits provided.

Though necessarily guided by basic insurance principles, Blue Cross does many things which are not considered sound insurance practice, but which nevertheless are good for the community and which reflect a reasonable approach to the community health problem. These things, aside from dollars charged and the dollars paid out, set Blue Cross apart.

For example, membership is basically voluntary without the requirement of management participation in cost which is characteristic of most commercial health insurance. Although many companies do now share in the Blue Cross subscription cost for their employees, our membership is still largely on a voluntary basis, available to any employed group that meets our enrollment requirements. And these requirements themselves reflect the community nature of Blue Cross—groups as small as five persons may enroll and only a 50% participation is needed for the larger groups. And members in any group, large or small, pay the same subscription rates for the same benefits.

We like to call our subscription rates community rates, as opposed to the experience rates used by commercial insurers. And therein lies a long-debated issue, too complex to discuss here. But therein also lies a fundamental principle of Blue Cross—charging a single rate to all persons in the community so that the risk is spread over the whole community. Obviously, some groups use more hospital care than others—type of occupation, average age, and sex distribution all make a tremendous difference, and are reflected in insurance rates to individual groups. They are all averaged out in the Blue Cross community rate.

Another factor, tied to dollars, is the Blue Cross policy of no commissions, no agent fees, no bonuses. All employees, from the office boy to the director—and including the sales force—are paid a salary. Health insurance today is competitive, and in a competitive field, vigorous selling is essential. Accepted business practice would seem to call for some financial incentive for the sales force at least, that is, commissions, fees or bonuses. Yet Blue Cross now has some 952,000 subscribers in Maryland who have membership in groups which salaried representatives have secured without such dollar incentives. Blue Cross has always stuck to its basic principles and will continue to, resulting in tremendous savings to the community. Overall administrative costs, including sales, billing and claims-handling, now require only six cents out of each subscription dollar, a figure seldom if ever matched anywhere in the entire insurance field.

Too often, an employee loses his health protection when he needs it most—when he leaves his job because of layoff, change of job, or retirement. This means that his family loses, too—if the insurer had provided coverage for his dependents in the first place. Under Blue Cross, the employee's protection—for himself and his family—is his to keep when he leaves his place of employment. And he may keep it as long as he likes, take it with him wherever he goes—to Podunk on a new job, or to Florida to retire.

These are just a few examples of the reasonable approach taken by Blue Cross which benefit all subscribers in so many ways and set Blue Cross apart. There are many more, some equally important to these mentioned. They all combine in a unique way to put Blue Cross as close to every human situation as an organization and a contract can be. Blue Cross is not perfect—much remains to be done in the way of both services and benefits, in meeting the changing social and economic pattern of community health care—but Blue Cross has laid a good foundation on which to build.

* Director, Maryland Hospital Service, Inc., Maryland Medical Service, Inc.

Book Review*

Acknowledgment of all books received will be made in this column, and this will be deemed by us as full compensation to those sending them.

Medical Department, United States Army. Hand Surgery in World War II. Edited by Sterling Bunnell, M.D., Office of the Surgeon General, Department of the Army, Washington, D. C. Copyright 1955. United States Government Printing Office. 477 pages. $3.75.

This book is one of a series being published about the activities of the Medical Department of the United States Army during World War II. This specific volume being reviewed represents a summary of the experiences in the treatment of the injured hand in the Army Medical Corps during World War II. It has been edited by Dr. Sterling Bunnell, who served as Civilian Consultant for Hand Surgery to the Secretary of War.

This is a very valuable and important textbook, for it points out how in the beginning of World War II there was no definite plan established as to how the injured hand was to be treated at the front or in the Zone of Interior. The volume describes how, as a result of the lack of such planning, in many instances the injured hand received such poor treatment initially that attempts at salvaging the hand by reconstructive surgery later was greatly handicapped. As a result a definite program was evolved by Major General Norman T. Kirk, both for the treatment in the forward areas and in the Zone of Interior. In the latter area nine Hand Centers were established at army general hospitals for the treatment and reconstruction of the injured hand. It was proven conclusively in these centers that crippled hands were worth salvaging, but in order for such reconstructive surgery to be successful it was best carried out in a center staffed by medical officers versed in all of the specialties of plastic, orthopedic and neurosurgery.

Chapter I is by Dr. Condict W. Cutler, Jr., who reviews the advancement in surgery of the hand in the period between World War I and World War II.

Chapter II, by Dr. Sterling Bunnell, summarizes treatment techniques in the Army Hand Centers.

Chapter III, by Dr. Harvey S. Allen, outlines the experiences in the Mediterranean Theater of Operations, and one will find nowhere else such a beautiful description of acute trauma to the hand, with the pitfalls which one may experience in its treatment, and his suggestions as to methods of improving the end results. Many of the suggestions which he presents were later to be developed into specific directives, which were used as a guide to the management of the injured hand at the front and in the rear echelons.

Chapter IV is by Dr. Mather Cleveland, and outlines the experiences in the European Theater.

There follows in succession chapters written by each officer in charge of hand reconstruction in one of the general hospitals in the Zone of Interior which had been designated as a Hand Center by the Surgeon General. Each chapter recounts the activities and experiences in each center. In these latter chapters there is considerable repetition as each author describes the techniques of treating various types of problems in his own center. On the other hand, one will find that in many instances while not having a different basic approach there were different minor techniques, and one will find that each center contributed a great deal to the progress in this important field of surgery.

The chapter by Dr. Sterling Bunnell, entitled "Conclusions on the Care of Injured Hands in World War II Derived From the Experiences of the Civilian Consultant for Hand Surgery to the Secretary of War", must be separately referred to; for in the reviewer's opinion it represents one of the most complete, concise, and simple descriptions of the treatment of the injured hand to appear in publication. In fifty-three pages Dr. Bunnell summarizes his experiences as consultant, and then goes on to outline in his precise and simple style methods for splinting the hand, his conclusions as to the best technique for the treatment of burns, fractures, tendon injuries, nerve injuries and techniques for tendon transfer, in addition to recommendations for occupational therapy.

This volume will serve as an excellent text not only for the military surgeon, present and future, but as well for all surgeons who are called upon to treat the injured hand.

R.M.C.

* The reviews here published have been prepared by competent authorities and do not represent the opinions of any official bodies unless specifically stated.

Woman's Auxiliary Medical and Chirurgical Faculty

MRS. ALBERT E. GOLDSTEIN, *Auxiliary Editor*

REPORT ON MENTAL HEALTH 1955–56

MRS. IRVING J. TAYLOR*

The reasons for the interest of the medical associations in Mental Health are simple. More than ten million Americans, one in every sixteen are now suffering from some form of mental disorder! There are 750,000 men, women and children under the care of mental hospitals today—more than there are in all other hospitals combined! A quarter of a million new patients are admitted to hospitals each year. In Maryland the anticipated number of admissions for 1956 are 4,216. Of all patients going to hospitals for treatment for physical complaints, an estimated 6,000,000 are suffering from serious mental and emotional disorders which are responsible for their physical ailments. Mental disorders are an important factor in fifty to seventy per cent of medical cases treated by physicians. Children as you know are not excluded. Five thousand under nineteen years of age are admitted to state mental hospitals each year. Twenty-five hundred are hospitalized in other centers, and over 200,000 are treated at mental health clinics.

Although statistics are vitally dry, these seem alive to me. There are more working years of life lost because of mental disorders than there are for any group of illnesses which disable workers during their lifetime. There are less than one-third the necessary clinics and less than one-half the psychiatrists needed to properly handle the situation.

That the needs are great in Maryland are obvious —$25.62 is spent per patient per day at The Johns Hopkins Hospital, $9.38 is spent at the VA psychiatric hospitals, while $3.65 is the new proposal for the state mental hospital patients. No more need be said.

I am glad, however, to report a partial awakening of the public to the Mental Health problem.

This can be seen in the active way the newspapers and TV are aiding this year's program. The Evening Sun carried a good article on the ninety minute filmed documentary entitled "Out of Darkness" which was produced Sunday, March 18, 1956. The interesting aspect of the article was Mr. Albert Wasserman's observation as producer-writer, ". . . the idea behind 'Out of Darkness' is that mental patients are essentially people. There is always hope for recovery. It's amazing how in contact out-of-contact people are."

It is because of this last statement that I feel our effort to collect books and magazines strikes as being of utmost importance. It has been my feeling that participation in a project of this nature includes the membership as a whole and does not limit the activity solely to a small committee. In this way all the contributors are made to think of those in the state hospitals and what can be done to help them.

"It is good to know that the member of the Woman's Auxiliary will be collecting books and magazines for the patients in our mental hospitals during the coming year. I wish you and they could see for yourselves the most heart warming response of the patients." This is from the letter received from the Executive Director of the Maryland Association for Mental Health, Inc. And from the national chairman of Mental Health, "I am most happy about your book and magazine project and can't agree with you more that the more who participate the more there are who are interested. I know it has meant a lot to the patients and I do hope it is carried on next year in your state."

We had collected over sixty articles at the February meeting and with other counties have turned in over two hundred books and magazines. I hope to double the amount before the year is out.

Our auxiliary also went on record as favoring the increased budget for the state mental hospitals in a letter to Annapolis.

The last meeting of the year in April is to be in

* State Chairman of Mental Health, Woman's Auxiliary to the Medical and Chirurgical Faculty.

connection with Mental Health and Dr. J. Edmund Bradley from the University of Maryland will speak on "The Role of the Mental Hygiene Child Guidance Clinic in Teaching."

I believe that by having programs on Mental Health and making our membership aware of the problems as well as the possibilities in the field we can come a step closer to doing our part in one of the most needed and neglected areas of medicine.

Many major illnesses have been wiped out because the citizens of this country, individually and through their organizations have acted together to arouse concern, to support research and training, to help the victims and their families. Mental illness, too, can be conquered through organized citizen action. Although we are going all out to combat polio, heart, cancer and other serious diseases, we are doing very little to combat mental illness, which accounts for more hospitalized patients today than in all these other diseases combined.

Some facts about the mentally ill which I feel we should all have the opportunity to hear as published by the National Association for Mental Health in cosponsorship with the National Institute of Mental Health are:

Some people still believe that mental illness is hopeless. But the truth is—when mental patients receive the best hospital care seven out of ten leave the hospital cured or improved.

Some people still believe that people who are mentally ill are usually violent and dangerous. But the truth is—most mental patients are quiet and harmless.

Some people still believe that the mentally ill would get well if they used more will power. But the truth is—most mentally ill are incapable of controlling their thoughts and feelings and actions. It does no good to tell them to "snap out of it" or "stop worrying." They should have medical treatment in order to get well.

Some people still believe that ex-mental patients commit more crimes than other people. But the truth is—the arrest rate for the ex-mental patient is only one-quarter of that for the general population.

Some people still believe that mental illness is a disgrace. But the truth is—it is only ignorance that makes people ashamed of mental illness. A mental illness is like any physical illness in that it requires medical diagnosis and treatment.

Some people still believe that mental illness appears suddenly without warning. But the truth is—usually there are early signs of mental illness which trained people can recognize before the illness reaches the more serious stages.

Some people still believe that it is all right to put off treatment for a mental illness. But the truth is—many milder mental disorders may become fixed or chronic when treatment is neglected. The sooner mental illness is treated the better the chances are for recovery.

Some people still believe that the mentally ill are best off at home in their family's care. But the truth is—any serious mental illness requires medical attention, and it is usually the mental hospital that can best provide the necessary care and treatment.

Some people still believe that the mentally ill don't know what is going on around them or what is happening to them. But the truth is—most of them are sensitive to their surroundings and need kindness and attention.

Some people still believe that the mentally ill are happy people living in imaginary worlds. But the truth is—they are unhappy people and they suffer intensely. Their imaginary world is not a refuge of choice but a desperate retreat that is forced on them by their illness.

Some people still believe that you have to handle former patients with kid gloves. But the truth is—they have a simple basic need for friendship, a job, family and recreation, just like anyone else.

Some people still believe that it is easier to support than to cure. But the truth is, as Dorothea Dix said to the General Assembly of Maryland in 1852, "It is cheaper to cure than to support even at the very lowest rate." This still remains true today. If we could once get over the hump of adequate facilities and personnel, it would cost the taxpayers far less than the $3,000,000 it does each day of the year at present.

We can all help by doing our share in the 1956 Mental Health Drive and by making ourselves acquainted with the true facts as herein stated and passing them along to others not so well informed. In that way we will truly be serving as an auxiliary to our husbands and the medical profession in general.